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CARSON COUNTY, TEXAS

Records of wells, drillers' logs, water analyses,
and map showing location of wells

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Works Progress Administration Project 19512
by S. W. Adair

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Analyses made and report mimeographed by
WORKS PROGRESS ADMINISTRATION
Project 10443

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Sponsored by the State Board of Water Engineers with the United States Department of the Interior, Geological Survey, and the Bureau of Industrial Chemistry of The University of Texas cooperating

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Austin, Texas
April 10, 1939

CARSON COUNTY, TEXAS

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Introduction

by

Samuel F. Turner

Associate Hydraulic Engineer

United States Department of the Interior

Geological Survey

This publication contains data obtained in the course of a survey in Carson County, Texas, consisting of records of wells, logs of wells and test holes, and analyses of water from wells. The locations of all wells and test holes that are listed are shown on the map in the back of the book.

This survey was made by the Works Progress Administration (Project 10512 of district 16, Amarillo, Texas) as part of a State-wide inventory of water wells sponsored by the State Board of Water Engineers, in cooperation with the United States Department of the Interior, Geological Survey. It was started September 3, 1932, and completed December 3, 1938. S. W. Adair, an engineer, was project superintendent for the duration of the work. The office of the Works Progress Administration in the Amarillo District gave valuable aid to the project, and the Carson County Commissioners' Court cooperated by furnishing transportation for the workers.

The field work included the drilling of a large number of test holes from 4 to 79 feet deep in lines across depressions in the land surface which are partly filled with water after heavy rains. These depressions are of common occurrence in parts of Carson County as well as in other large areas in the Texas High Plains. Samples of the materials encountered were collected from the test holes at vertical intervals of one foot and logs of the test holes were compiled from them. In this way the character of the sediments underlying the depressions can be determined and conclusions reached as to the opportunities the depressions afford for ground-water recharge.

The analyses were made by chemists employed on Works Progress Administration project 10443 under the direction of Dr. E. P. Schoch, Director of the Bureau of Industrial Chemistry of The University of Texas, and E. W. Lohr, Chemist of the Quality of Water Division of the Geological Survey; the Bureau of Industrial Chemistry furnished laboratory space and chemical equipment. This release was typed by typists employed on that project.

The records serve as a guide to land owners and well drillers who need information regarding wells, the depth to ground water in different parts of the county, and the quantity and quality of water yielded by wells. They afford a basis for the more intensive investigation that is now being carried on by the State Board of Water Engineers in cooperation with the Geological Survey, the purpose of which is to determine the distribution and extent of the available ground-water supplies and the safe yield of the underground reservoirs.

Records of wells in Carson County, Texas

(All wells are drilled unless otherwise noted in "Remarks" column.)

(See "Logs of W. P. A. test wells" for all records of test wells.)

No.	Distance from Deahl	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
d/ 1	2 miles northwest	10, SW $\frac{1}{4}$ SW $\frac{1}{4}$	T. T. R. R., blk. Y-2	John Q. Bost	Canadian River Gas Co.	1931	2,852	12 $\frac{1}{2}$
2	In Deahl	3, SW $\frac{1}{4}$ SW $\frac{1}{4}$	Deahl townsite	C. E. Deahl	J. D. McGraff	1906	170	5
3	1 $\frac{1}{2}$ miles east	4, NE $\frac{1}{4}$ NE $\frac{1}{4}$	H. & G. N. R. R.	Alena A. Gayden	--	Old	80	--
4	2 $\frac{3}{4}$ miles east	5, SE $\frac{1}{4}$ SE $\frac{1}{4}$	A. B. & M., blk. 3	J. M. Sanford	Frank Neal	1937	80	5
5	3 $\frac{3}{4}$ miles east	7, SE $\frac{1}{4}$	do.	Bery F. Welsh	--	-- Spring	--	--
d/ 6	do.	11, SW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	J. M. Sanford	Canadian River Gas Co.	1924	2,520	20
7	4 miles southeast	11, SW $\frac{1}{4}$ SE $\frac{1}{4}$	do.	J. M. Huber Corp.	W. D. Witt	1935	210	12 $\frac{1}{2}$
8	3 $\frac{3}{4}$ miles southeast	do.	do.	do.	do.	1934	202	12 $\frac{1}{2}$
9	3 $\frac{1}{2}$ miles southeast	11, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	do.	do.	1936	156	12 $\frac{1}{2}$
10	3 $\frac{1}{4}$ miles southeast	11, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	do.	do.	1936	186	12 $\frac{1}{2}$
11	3 miles southeast	13, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	J. M. Sanford	Frank Neal	1932	100	4 $\frac{1}{2}$
12	2 $\frac{3}{4}$ miles southeast	14, NW $\frac{1}{4}$ SE $\frac{1}{4}$	do.	do.	do.	1932	94	--
13	2 $\frac{5}{8}$ miles south	6, NE $\frac{1}{4}$ NE $\frac{1}{4}$	B. & B., blk. 5	A. F. Bennett	do.	Old	157	4
14	3 $\frac{3}{8}$ miles south	2, NE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	do.	--	1907	80	4
15	4 miles southeast	16, SE $\frac{1}{4}$ NE $\frac{1}{4}$	A. B. & M., blk. 3	J. M. Sanford	Frank Neal	1932	115	6
16	5 $\frac{1}{8}$ miles southeast	18, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	W. H. Fuqua	--	Old	100	--
17	5 miles south	16, NW $\frac{1}{4}$ SE $\frac{1}{4}$	H. & G. N. R. R., blk. S	A. F. Bennett	A. Hays	Old	147	4 $\frac{1}{2}$
18	7 miles south	18, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	H. T. Deahl	--	--	280	5
19	8 $\frac{1}{2}$ miles south	1, NE $\frac{1}{4}$ SW $\frac{1}{4}$	B. S. & F.	C. E. Deahl	Frank Neal	1914	400	6
d/ 20	8 miles south	12, SE $\frac{1}{4}$ NW $\frac{1}{4}$	H. & G. N. R. R., blk. S	J. M. Sanford	--	Old	235	4 $\frac{1}{2}$
21	7 $\frac{1}{2}$ miles south	8, NW $\frac{1}{4}$ SE $\frac{1}{4}$	do.	C. F. Moore	--	--	195+	6
22	8 $\frac{1}{2}$ miles south	9, NW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	J. M. Sanford	--	--	195+	6

a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.
b/ C, cylinder; Cf, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.
c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

Records obtained by S. W. Adair, Project Superintendent
(Chemical analyses of water from these wells are in the table of analyses.)

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power <u>b/</u>	Use of water <u>c/</u>	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
1	--	--	--	None	N	--	Oil test. Reported altitude, 3,229 feet. See log.
2	--	158	<u>e/</u>	C, W	D, S	Flat	Well sealed at surface. Produces "deep rock water."
3	--	80	<u>e/</u>	C, W	S	do.	Well sealed at surface.
4	0	40	Nov. 12, 1938	C, W	S	Draw	Water level measured while mill pumping. Water from fine-grained sand.
5	--	Flows	Oct. 13, 1938	None	S	do.	Located near Huber Compressor Plant 1. Known as "Seven Holes Spring."
6	--	--	--	None	N	--	Oil test. Reported altitude, 3,197 feet. See log.
7	--	125	<u>e/</u>	Cf, E, 20	D, Ind	--	142 feet of 12½-inch and 30 feet of 10-inch casing. Reported yield, 73 gallons a minute. See log.
8	--	75	<u>e/</u>	Cf, E, 7½	D, Ind	--	157 feet of 12½-inch and 45 feet of 10-inch casing. Reported yield, 55 gallons a minute. See log.
9	--	55	<u>e/</u>	Cf, E, 20	D, Ind	--	115 feet of 12½-inch and 44 feet of 8½-inch casing. Reported yield, 115 gallons a minute. See log.
10	--	83	<u>e/</u>	Cf, E, 7½	D, Ind	--	146 feet of 12½-inch and 44 feet of 10-inch casing. Reported yield, 50 gallons a minute. See log.
11	--	100	<u>e/</u>	C, W	S	Draw	Well sealed at surface.
12	--	100	<u>e/</u>	C, W	S	do.	Wet casing prevented measurement of water level.
13	0	132.1	Nov. 14, 1938	C, W	S	do.	Water from sand and gravel.
14	--	24	<u>e/</u>	C, W	D, S	do.	Do.
15	--	30	<u>e/</u>	C, W	S	do.	Reported water at 30 feet. Well sealed at surface.
16	--	100	<u>e/</u>	C, W	S	do.	Well sealed at surface.
17	0	107.1	Nov. 14, 1938	C, W	S	do.	Reported weak supply from fine-grained sand.
18	--	270	<u>e/</u>	C, W	D, S	Slope	Located 100 yards northwest of house
19	--	265	<u>e/</u>	C, W	--	Draw	
20	2.2	224.9	Nov. 12, 1938	C, W	S	do.	
21	2.5	146.9	Oct. 18, 1938	C, W	S	do.	
22	2	171.7	do.	C, W	S	do.	

d/ No water sample collected.

e/ Water level reported.

f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Records of wells in Carson County--Continued

No.	Distance from Deahl	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
25	9½ miles south	1, NW¼NW¼	H. & G. R.R., blk. S	C. F. Moore	--	Old	292	4½
No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
51	20 miles north	121, NW¼NE¼	I. & G. R.R. blk. 5	S. B. Barnett Est.	--	Old	170	4½
52	17½ miles north	98, SW¼NE¼	do.	do.	--	1930	445	6
53	16½ miles north	79, SW¼NE¼	do.	do.	--	Old	170	4
54	15 miles north	75, SE¼NW¼	do.	Humble Pipe Line Co.	--	1926	264	8
55	do.	75, NE¼SE¼	do.	do.	--	1926	183	8
56	do.	do.	do.	do.	--	1926	200+	8
57	14 miles north	59, SW¼NE¼	do.	S. B. Barnett Est.	--	--	Spring	--
58	do.	61, NW¼NW¼	do.	do.	--	Old	97	6
59	13½ miles north	62, SW¼NE¼	do.	do.	--	--	200	4½
60	16 miles north	82, SW¼NW¼	do.	do.	--	1938	154	6
61	18 miles north	116, SW¼SW¼	do.	Gulf Pipe Line Co.	Gulf Pipe Line Co.	1936	350	10
62	do.	116, SE¼SE¼	do.	do.	do.	1935	377	12½
63	18½ miles north	116, SE¼NE¼	do.	S. P. Burnett Est.	--	1937	275	4
d/ 64	17½ miles north	106, NW¼SE¼	do.	do.	Gulf Prod. Co.	1921	3,052	--
d/ 65	17 miles north	93, NE¼NW¼	do.	do.	Texoma Oil Co.	1919	3,075	--
66	do.	107, SW¼SW¼	do.	do.	--	1925	268	6
67	do.	107, NW¼SW¼	do.	do.	--	1925	400	6
d/ 68	do.	107, SW¼SE¼	do.	do.	Gates Oil Co.	1925	3,028	--
d/ 69	18½ miles north	111, NW¼SE¼	do.	do.	--	--	167	8½

a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.

b/ C, cylinder; Cf, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.

c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
23	1.3	252.8	Nov. 16, 1938	C, W	S	Draw	
No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
51	--	125	e/	C, W	S	Draw	
52	1	142.5	Nov. 17, 1938	C, W	D, S	Slope	
53	--	125	e/	C, W	S	Draw	Equipped with 3-inch tubing.
54	0.5	170	Nov. 16, 1938	C, E, 5	Ind	Slope	Water level measured 10 minutes after pump shut off. Reported yield,
55	1	154.9	Nov. 17, 1938	C, E, 5	Ind	do.	Reported yield, 7 gallons a minute. 19 gallons a minute from fine-grain-
56	1	136	do.	C, E, 5	Ind	do.	Reported 62 feet drawdown red sand, after pumping 6 gallons a minute for
57	--	Flows	Oct. 12, 1938	None	S	Creek bottoms	Estimated yield, $\frac{1}{2}$ gallon a minute from bank of creek. Several hours.
58	0.8	60	do.	C, W	S	Draw	Located near Rock Creek.
59	--	150	e/	C, W	D, S	Flat	Obstruction at 56 feet.
60	0	110.9	Dec. 5, 1938	C, W	S	Draw	Concrete curb.
61	--	60	e/	J, -	Ind	do.	Reported yield, 55 gallons a minute. See log.
62	--	--	--	J, G, 60	Ind	Slope	100 feet of 12 $\frac{1}{2}$ -inch and 350 feet of 10-inch casing; bottom 54 feet perforated. Reported yield, 50 gallons a minute. Water from red sand, 195 to 205 feet and 315 to 327 feet. See log.
63	--	265	e/	C, W,	D	do.	
64	--	--	--	None	N	--	Oil test. See log.
65	--	--	--	None	N	--	Do.
66	0.5	176.9	Dec. 1, 1938	C, W	D	Ridge-top	
67	0	160	do.	A, -	S	Draw	Water level measured while pumping.
68	--	--	--	None	N	--	Oil test. See log.
69	1.5	97.9	Nov. 26, 1938	A, -	--	Hilltop	

d/ No water sample collected.

e/ Water level reported.

f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
70	17½ miles north	110, SW¼SE¼	I. & G. N. R.R., blk. 5	S. B. Burnett Est.	--	Old	205	7
71	10 miles north	22, SE¼NE¼	do.	do.	--	Old	100	4½
72	do.	25, NE¼SW¼	do.	do.	Cities Service Co.	--	117	7
73	9 miles north	4, NE¼NE¼	do.	do.	--	1936	217	6
d/ 74	13½ miles northwest	55, SE¼SE¼	do.	Phillips Petroleum Co.	F. L. McDonald	1926	403	18
d/ 75	do.	34, SE¼NW¼	do.	S. B. Burnett Est.	Gulf Prod. Co.	1931	3,227	20
76	do.	34, SW¼NE¼	do.	Phillips Petroleum Co.	D. L. McDonald	1929	500	20
d/ 77	13 miles northwest	35, SW¼NW¼	do.	do.	do.	1927	330	20
d/ 78	do.	34, SE¼NE¼	do.	do.	do.	1936	535	20
d/ 79	12½ miles northwest	55, SE¼SW¼	do.	do.	do.	1927	270	18
80	12 miles northwest	32, NE¼NW¼	do.	do.	do.	1927	298	20
81	11½ miles northwest	32, SE¼SW¼	do.	do.	do.	1937	451	20
d/ 82	do.	13, SW¼NW¼	do.	do.	do.	1937	459	20
d/ 83	11 miles northwest	13, SE¼NE¼	do.	S. B. Burnett Est.	--	Old	220	6
No.	Distance from Skellytown	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
101	7½ miles west	78, SW¼NE¼	I. & G. N. R.R., blk. 4	S. B. Burnett Est.	--	Old	126	5
102	6½ miles west	76, NW¼SE¼	do.	do.	--	Old	--	--
103	6 miles southwest	58, SW¼NE¼	do.	do.	--	Old	263	6
104	4 miles west	73, NW¼NW¼	do.	A. J. Daves	--	Old	250	6
105	2½ miles southwest	71, SW¼SW¼	do.	Magnolia Pet. Co.	--	Old	210	4
106	3½ miles north	125, NW¼SE¼	do.	Danciger Oil Co.	--	1927	165	6

- a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.
b/ C, cylinder; Cr, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.
c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
70	0.8	120.7	Nov. 26, 1938	C, W	S	Slope	
71	--	100	e/	C, W	S	Draw	Well sealed at surface.
72	0	75.7	Nov. 15, 1938	C, W	S	Side of ridge	
73	0	173.7	do.	C, W	S	do.	Concrete curb.
74	--	240	e/	Cf, E, 100	Ind	Flat	Reported yield, 350 gallons a minute. See log.
75	--	--	--	None	N	--	Oil test. Reported altitude, 3,415 feet. See log.
76	--	260	e/	Cf, E, 100	Ind	Flat	Reported yield, 350 gallons a minute. See log.
77	--	196	e/	Cf, E, 100	Ind	Slope	Do.
78	--	243	e/	Cf, E, 100	Ind	do.	360 feet of 20-inch casing; 30 feet of 20-inch strainer and 110 feet of 14-inch casing. Reported yield, 350 gallons a minute. See log.
79	--	139	e/	Cf, E, 100	Ind	Draw	Reported yield, 350 gallons a minute. See log.
80	--	147	e/	Cf, E, 100	Ind	do.	Do.
81	--	190	e/	Cf, E, 100	Ind	do.	372 feet of 20-inch casing; 29 feet of 20-inch strainer and 30 feet of 16-inch pipe. Reported yield, 550 gallons a minute. See log.
82	--	212	e/	Cf, E, 100	Ind	do.	458 feet of 20-inch casing. Reported yield, 550 gallons a minute. See log.
83	1.0	217.1	Nov. 19, 1938	C, W	S	do.	
No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
101	0	109.1	Nov. 26, 1938	C, W	S	Draw	
102	--	--	--	C, W	S	do.	
103	1.6	224.8	Nov. 26, 1938	C, W	D, S	do.	Located near lake.
104	0.5	234.7	Nov. 28, 1938	C, W	D, S	Slope	
105	0.8	192.8	do.	C, W	D, S	do.	
106	--	125	e/	J, G, 7 1/2	Ind	do.	Reported yield, 35 gallons a minute. Located in Hutchinson County.

d/ No water sample collected.

e/ Water level reported.

f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Records of wells in Carson County--Continued

No.	Distance from Skellytown	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
107	2½ miles north	112, NE¼SE¼	I. & G.N. R.R. blk. 4	B. F. Block	Great West Oil Co.	1937	3,168	--
d/108	2½ miles northeast	4, NE¼SW¼	I. & G.N. R.R. blk. 9	L. Cooper	Gulf Prod. Co.	1935	3,023	16
109	In Skellytown	92, NE¼SW¼	I. & G.N. R.R. blk. 4	Northern Nat. Gas Co.	--	1930	310	8½
110	do.	92, SE¼SE¼	do.	T. & S.F. R.R.	D. L. McDonald	1927	418	14
d/111	1½ miles south	70, SE¼SE¼	do.	do.	--	Old	397	6
112	3½ miles southeast	66, SE¼NE¼	do.	Julia McConnell	--	Old	390	4½
113	6 miles southeast	23, NW¼NE¼	do.	T. H. Barnard	--	1911	400	4½
d/114	6½ miles southeast	23, NE¼SE¼	do.	do.	--	1930	412	6
d/115	do.	201, SW¼SE¼	I. & G.N. R.R. blk. 3	Julia McConnell	Waggoner Oil Co.	1924	3,060	--
116	7½ miles southeast	174, NE¼SE¼	do.	T. B. Cobb Est.	--	1913	375	5
117	8 miles southeast	203, NE¼SE¼	do.	S. Czerner	H. H. Heiskill	1938	450	4½
d/118	do.	do.	do.	do.	-- Hays	1910	411	4½
d/119	7½ miles south	28, SW¼SW¼	I. & G.N. R.R. blk. 4	E. E. Bryan	Frank Neal	1922	390	4½
d/120	8 miles south	1, NE¼SW¼	do.	H. R. Kees	Cities Service Gas Co.	1931	3,336	15½
121	7½ miles south	2, NW¼SE¼	do.	L. J. Bednanz	H. H. Heiskill	1919	335	4½
d/122	6½ miles south	20, NE¼SW¼	do.	B. Urbanczyk	do.	1920	412	4½
d/123	7 miles south	19, SW¼SE¼	do.	do.	do.	1921	436	4½
124	6 miles south	26, NW¼SW¼	do.	C. A. Noel	--	1915	390	4½
125	5½ miles south	27, SE¼NE¼	do.	A. D. Smith	-- Barden	1926	422	--
126	4 miles southwest	50, NE¼SE¼	do.	Magnolia Pet. Co.	--	1890	225	5½
127	5 miles southwest	51, SW¼SE¼	do.	White Deer Investment Co.	--	--	370	--
128	7½ miles southwest	16, SW¼NW¼	do.	George Coffee	--	1916	517	4½
129	8½ miles southwest	8, NE¼SE¼	do.	O. Thorneburg	--	Old	340	4½
130	9 miles southwest	9, NW¼NW¼	do.	S. B. Burnett Est.	C. E. Meaker	1938	339	6½

a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.

b/ C, cylinder; Cf, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.

c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
107	--	--	--	None	N	--	Oil test. Reported altitude, 3,301 feet. See log.
108	--	--	--	None	N	--	Oil test. Reported altitude, 5,13 feet. See log.
109	--	283	e/	J, E, 7 1/2	Ind	Slope	Reported yield, 200 gallons a minute.
110	--	321	e/	Jf, E, 100	Ind	do.	Reported 18 1/2 feet drawdown after pumping 240 gallons a minute for several days.
111	1.7	332.5	Nov. 25, 1938	--	N	Flat	Concrete curb.
112	1.0	336.8	do.	C, W	S	Draw	
113	0	378.4	Nov. 21, 1938	C, W	D, S	Flat	
114	0	371.2	do.	--	--	do.	Drilled to supply water for oil test.
115	--	--	--	None	N	--	Oil test. See log.
116	0.5	365	Dec. 2, 1938	C, W	D, S	Flat	Located in Gray County.
117	--	400	e/	C, W	D, S	do.	
118	0.3	374.0	Nov. 21, 1938	None	N	do.	
119	0.3	370.8	do.	--	N	Slope	Reported water level when drilled, 300 feet.
120	--	--	--	None	N	--	Oil test. See log.
121	--	371	e/	C, W	D, S	Slope	Reported yield, 7 gallons a minute.
122	1.0	390.3	Nov. 4, 1938	None	N	Flat	Water slightly salty.
123	1.0	367.5	do.	C, W	S	do.	Reported weak supply.
124	0.8	384	do.	C, W	D, S	do.	Water level questionable.
125	--	400	e/	C, W	S	Hill-side	
126	1.0	213.5	Nov. 28, 1938	C, W	S	Draw	
127	--	300	e/	Jf, E, 8	Ind	Slope	
128	--	340	e/	C, C,	D, S	do.	Struck water at 340 feet and 440 feet.
129	1.5	310.1	Oct. 10, 1938	C, W	D, S	Flat	
130	2	320	Nov. 26, 1938	C, W	S	Slope	Water sand, 300 to 305 feet and 325 to 339 feet.

d/ No water sample collected.

e/ Water level reported.

f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
151	7½ miles northeast	12, NE¼NW¼	I. & G.N. R.R. blk. 7	Mrs. W. F. Simms	--	Old	341	--
152	9½ miles northeast	9, NW¼NW¼	do.	W. G. Allen	--	Old	319	--
d/153	do.	9, SW¼SE¼	do.	W. S. Eller	Alma Oil Co.	1935	3,801	12½
154	do.	16, SW¼SW¼	do.	W. Z. Gaston	-- Hays	1917	280	4½
155	11½ miles northeast	6, SE¼SW¼	do.	G. W. Culbertson	--	Old	328	4½
d/156	11 miles northeast	28, SE¼NE¼	do.	P. & S.F. R.R.	--	1919	306	8-5/8
157	do.	do.	do.	do.	--	1919	347	10
158	12 miles northeast	27, NE¼NE¼	do.	L. A. Cunningham	--	Old	316	4
159	12½ miles northeast	26, NE¼NW¼	do.	City of White Deer	Frank Elliott	1927	400	8½
d/160	do.	do.	do.	do.	do.	1926	400	8½
d/161	13 miles northeast	19, SE¼NE¼	do.	P. & S.F. R.R.	--	Old	571	--
d/162	do.	do.	do.	do.	--	Old	562	--
d/163	do.	do.	do.	do.	--	Old	523	--
d/164	do.	do.	do.	do.	--	Old	517	--
165	15 miles northeast	21, NW¼NE¼	do.	A. Gonozelick	--	1925	370	4½
d/166	15½ miles northeast	1, NE¼SW¼	do.	F. E. Witter	--	Old	490	8
167	15 miles east	23, NE¼NE¼	do.	D. Pope	--	1917	312	6
168	16 miles east	24½, SW¼NE¼	H. & G.N. R.R., blk. B-2	E. W. Sheridan	--	1926	412	8
d/169	15 miles east	45, NE¼NE¼	I. & G.N. R.R., blk. 7	L. M. Ballard	--	Old	300+	4½
170	13 miles east	46, NW¼SW¼	do.	W. B. Carey	H. K. Heiskill	1935	360	6
d/171	do.	47, NE¼SE¼	do.	Latic McKamy	--	Old	260	4½
d/172	12½ miles east	47, NW¼NW¼	do.	J. L. Click	--	Old	320	4½
d/173	10 miles east	50, NW¼NE¼	do.	Emma Turney	--	Old	309	4½
d/174	9½ miles northeast	38, SW¼NE¼	do.	B. N. Craig	--	Old	314	6

a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.

b/ C, cylinder; Cf, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.

c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) <u>a/</u>	Water level		Pump and power <u>b/</u>	Use of water <u>c/</u>	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
151	0.5	319.4	Oct. 15, 1938	C, W	D, S	Flat	
152	1	274	do.	C, W	D, S	Slope	Located near dry lake.
153	--	--	--	None	N	--	Oil test. Reported altitude, 5,411 feet. See log.
154	0	256.9	Nov. 4, 1938	C, W	D, S	Slope	Located near dry lake.
155	1	279.2	Oct. 19, 1938	C, W	D, S	Draw	Do.
156	--	295	<u>e/</u>	None	N	Flat	306 feet steel casing, bottom 11 feet perforated.
157	--	282	<u>e/</u>	T, E, 40	Ind	do.	348 feet steel casing, bottom 21 feet perforated. Reported yield, 150 to 500 gallons a minute. See log.
158	0.7	297.6	Oct. 19, 1938	C, W	D, S	do.	In White Deer.
159	--	310	<u>e/</u>	C, E, 40	P	do.	Reported drawdown, 33 feet after pumping 325 gallons a minute for
160	1	307.8	Dec. 2, 1938	J, E, 10	P	do.	Reported <u>hour.</u> In White Deer, yield, 77 gallons a minute.
161	--	386	<u>e/</u>	None	N	do.	Company well 2. <u>f/</u>
162	--	352	<u>e/</u>	None	N	do.	Company well 3. See log. <u>f/</u>
163	--	327	<u>e/</u>	None	N	do.	Company well 4. <u>f/</u>
164	--	328	<u>e/</u>	None	N	do.	Company well 1. Reported altitude, 3,338 feet. <u>f/</u>
165	0.4	318.3	Oct. 19, 1938	C, W	D, S, I	do.	
166	0.5	338.3	Dec. 2, 1938	None	N	Slope	
167	1	290	do.	C, W	D, S	do.	Water level measured while mill pumping.
168	--	325	<u>e/</u>	C, W	D, S	Flat	
169	1	279.1	Sept. 23, 1938	C, W	N	do.	
170	--	261	<u>e/</u>	C, W	D, S	do.	Struck water at 261 feet.
171	--	260	<u>e/</u>	None	N	do.	Obstruction at 11 feet.
172	1	270	Sept. 23, 1938	C, W	N	Slope	Leaking pipe caused questionable water level measurement.
173	0.5	279.1	Oct. 8, 1938	None	N	Flat	
174	1.3	266.7	Oct. 19, 1938	None	N	Slope	

a/ No water sample collected.e/ Water level reported.f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
d/175	8 $\frac{1}{2}$ miles east	51, SW $\frac{1}{4}$ S $\frac{1}{2}$ W $\frac{1}{4}$	L. & G.N. R.R., blk. 7	A. Howard	--	Old	278	4 $\frac{1}{2}$
d/176	7 miles east	59, NW $\frac{1}{4}$ S $\frac{1}{2}$ W $\frac{1}{4}$	do.	F. A. Vaniman	--	Old	317	4 $\frac{1}{2}$
177	6 $\frac{1}{2}$ miles northeast	58, NE $\frac{1}{4}$ N $\frac{1}{2}$ W $\frac{1}{4}$	do.	A. D. Weatherby	--	Old	340	4 $\frac{1}{2}$
178	do.	35, SE $\frac{1}{4}$ S $\frac{1}{2}$ W $\frac{1}{4}$	do.	G. D. Haden	--	Old	314	4 $\frac{1}{2}$
179	6 miles east	76, NE $\frac{1}{4}$ N $\frac{1}{2}$ W $\frac{1}{4}$	do.	A. A. Armstrong	Henry Dubey	1917	328	4
180	6 $\frac{1}{2}$ miles east	80, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	L. O. Eakin	--	Old	324	4
181	5 miles east	79, NW $\frac{1}{4}$ N $\frac{1}{2}$ W $\frac{1}{4}$	do.	E. C. Harris	--	Old	322	4
182	3 $\frac{1}{2}$ miles east	78, SW $\frac{1}{4}$ S $\frac{1}{2}$ W $\frac{1}{4}$	do.	J. B. Latham	--	Old	298	4
183	4 $\frac{1}{2}$ miles southeast	100, NW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	W. Lill	--	Old	299	4
184	6 $\frac{1}{2}$ miles southeast	125, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Cora Honaker	--	Old	293	4
185	7 $\frac{1}{2}$ miles southeast	125, NW $\frac{1}{4}$ N $\frac{1}{2}$ W $\frac{1}{4}$	do.	T. B. Harris	C. W. Crowell	1925	240	4
d/186	7 miles east	119, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	T. H. McKenzie	--	Old	300+	4
187	9 $\frac{1}{2}$ miles east	105, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	F. S. & J. S. Strobe	--	Old	300+	4
d/194	12 miles east	91, NW $\frac{1}{4}$ S $\frac{1}{2}$ W $\frac{1}{4}$	do.	B. Urbanczky	--	Old	300+	4
195	1 $\frac{1}{2}$ miles east	84, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	R. Benedict	--	Old	300+	4 $\frac{1}{2}$
196	9 $\frac{1}{2}$ miles east	72, NE $\frac{1}{4}$ N $\frac{1}{2}$ W $\frac{1}{4}$	do.	P. Heller	-- Hays	1909	299	4 $\frac{1}{2}$
197	do.	61, S $\frac{1}{2}$ SE $\frac{1}{4}$	do.	P. Harnly	do.	Old	303	4 $\frac{1}{2}$
d/198	12 miles east	86, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Mrs. J. Cavins	--	Old	300+	4 $\frac{1}{2}$
199	14 $\frac{1}{2}$ miles east	247, SW $\frac{1}{4}$ S $\frac{1}{2}$ W $\frac{1}{4}$	H. & G.N. R.R., blk. B-2	Mabel Thompson	--	Old	300+	4
d/200	do.	89, SE $\frac{1}{4}$ NE $\frac{1}{4}$	L. & G.N. R.R., blk. 7	C. L. Fields	--	1917	280	4
2/201	do.	110, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	G. E. Clark	--	Old	300+	4
d/202	14 miles east	111, S $\frac{1}{2}$ S $\frac{1}{2}$ W $\frac{1}{4}$	do.	D. H. Farley	--	Old	300+	4 $\frac{1}{2}$
203	14 $\frac{1}{2}$ miles east	132, S $\frac{1}{2}$ SE $\frac{1}{4}$	do.	J. A. Burgin	--	Old	321	4
204	14 miles east	134, SE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	D. H. & E. A. Farley	--	--	261	4 $\frac{1}{2}$
205	15 miles east	133, NE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	F. E. Johnson	--	Old	241	4 $\frac{1}{2}$
d/206	15 $\frac{1}{2}$ miles east	253, SW $\frac{1}{4}$ N $\frac{1}{2}$ W $\frac{1}{4}$	H. & G.N. R.R., blk. B-2	B. Ramming	--	Old	252	4 $\frac{1}{2}$

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
175	--	--	--	None	N	Flat	Dry when visited, Sept. 28, 1938.
176	0	302.9	Dec. 2, 1938	None	N	do.	
177	--	300	e/	C, W	D, S	Slope	Well sealed at surface.
178	0.4	302.1	Oct. 11, 1938	C, W	D, S, I	Flat	Irrigates small garden.
179	0.5	303.3	Dec. 2, 1938	C, W	D, S	do.	Struck rock at 328 feet.
180	--	300	e/	C, W	D, S	do.	Wet walls prevented accurate measurement of water level.
181	0	294	Oct. 6, 1938	C, W	D, S	do.	Do.
182	--	--	--	C, W	N	do.	Dry when visited, Oct. 1, 1938. Reported water from quicksand at 296 feet.
183	0	290.7	Oct. 13, 1938	C, W	D, S	do.	
184	0.8	273.8	Oct. 6, 1938	C, W	D, S	Slope	
185	--	220	e/	C, W	D, S	do.	Well sealed at surface.
186	1	277.1	Sept. 26, 1938	None	N	Rolling	
187	1.5	276.6	do.	C, W	D, S	Flat	
184	1.5	267.1	Sept. 23, 1938	None	L	Slope	
195	1.1	245.5	Sept. 23, 1938	C, W	S	Sink	
196	--	300	e/	C, W	D, S	Slope	Water from fine-grained sand. Water level questionable.
197	0.3	284.7	Oct. 1, 1938	C, W	D, S	Flat	Water from fine-grained sand; sand clogs well occasionally.
198	0.8	287.2	Sept. 22, 1938	C, W	N	do.	
199	1.2	276.7	Sept. 23, 1938	C, W	S	Slope	Supplies about 20 head of cattle three months of year.
200	--	260	e/	C, W	D, S	Flat	Well sealed at surface.
201	0.8	273.3	Sept. 23, 1938	C, W	D, S	do.	
202	0	263	Sept. 29, 1938	None	N	Slope	
203	2	219.5	Sept. 22, 1938	C, W	D, S	Draw	
204	2	227.1	Sept. 29, 1938	C, W	D, S	Slope	
205	--	220	e/	C, W	D, S	Draw	Reported weak supply.
206	--	220	e/	C, W	D, S	do.	Estimated yield, 2 gallons a minute.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
207	17 miles southeast	166, SE $\frac{1}{4}$ NE $\frac{1}{4}$	I. & G.N. R.R., blk. 7	Jessie Fay Jackson	--	Old	293	4
208	16 miles southeast	166, SE $\frac{1}{4}$ NW $\frac{1}{4}$	do.	O. R. Major	--	1913	317	4 $\frac{1}{2}$
209	do.	155, SE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	G. E. Schneider	C. W. Crowell	1911	278	4
d/223	13 $\frac{1}{2}$ miles southeast	159, NE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	W. S. Farley	--	--	300+	4 $\frac{1}{2}$
225	12 $\frac{1}{2}$ miles southeast	159, SE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Henry Kuhler	C. W. Crowell	1927	347	4 $\frac{1}{2}$
226	11 miles southeast	149, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	J. McKamy	--	Old	400+	5-5/8
d/227	12 $\frac{1}{2}$ miles east	136, SE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Biggs Horn	--	--	300+	4
23	12 miles east	113, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	L. D. Harris	C. W. Crowell	1917	316	4 $\frac{1}{2}$
233	8 miles southeast	140, SW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	T. M. Honaker	--	--	296	4 $\frac{1}{2}$
234	8 $\frac{1}{2}$ miles southeast	146, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	W. H. Harrell	--	--	325	6
241	7 $\frac{1}{2}$ miles southeast	165, NE $\frac{1}{4}$ NW $\frac{1}{4}$	do.	D. A. Harrell	C. W. Crowell	1938	350	6
d/242	10 miles southeast	38, SE $\frac{1}{4}$ SW $\frac{1}{4}$	H. & G.N. R.R., blk. B-3	W. H. Dean	--	--	322	4 $\frac{1}{2}$
243	10 $\frac{1}{2}$ miles southeast	42, SW $\frac{1}{4}$ NW $\frac{1}{4}$	H. & G.N. R.R., blk. B-4	E. A. Culler	--	Old	350	4 $\frac{1}{2}$
244	11 $\frac{1}{2}$ miles southeast	193, SE $\frac{1}{4}$ SE $\frac{1}{4}$	H. & G.N. R.R., blk. B-3	Lank School	--	--	--	--
251	14 $\frac{1}{2}$ miles southeast	129, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	J. D. Clark	--	1921	312	4
d/252	do.	150, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Mrs. J. C. Kilgore	--	Old	285	4 $\frac{1}{2}$
253	do.	126, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Nick Britten	Joe Altepeter	1911	297	4 $\frac{1}{2}$
254	16 miles southeast	124, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	J. A. Burgin	C. W. Crowell	1911	320	4
255	17 miles southeast	99, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	do.	do.	1908	323	4 $\frac{1}{2}$
256	16 miles southeast	97, SW $\frac{1}{4}$ SE $\frac{1}{4}$	do.	Nick Britten	Joe Altepeter	1910	318	4 $\frac{1}{2}$
d/257	17 miles southeast	94, NE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	T. Conrad	T. Conrad	1930	285	6
264	17 $\frac{1}{2}$ miles southeast	94, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	do.	do.	Old	300+	4 $\frac{1}{2}$
265	do.	91, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	Mary Kuelhler	C. W. Crowell	1925	285	4 $\frac{1}{2}$
d/266	do.	90, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	do.	do.	1898	282	6
267	do.	90, SE $\frac{1}{4}$ NW $\frac{1}{4}$	do.	City of Groom	--	1929	450	6-5/8
268	do.	do.	do.	do.	--	1923	302	5-5/8
269	do.	90, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	do.	C. W. Crowell	1922	228	4

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topo-graphic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
207	2	249.4	Sept. 22, 1938	C, W	D, S	Flat	Estimated yield, 2 gallons a minute.
208	--	260	<u>e/</u>	C, W	D, S	do.	Do.
209	--	260	<u>e/</u>	C, W	D, S	do.	Reported weak supply.
225	1	266.1	Sept. 23, 1938	None	N	Slope	
225	--	261	<u>e/</u>	C, W	D, S, I	do.	Estimated yield, 2 gallons a minute.
226	0.5	288.9	Sept. 26, 1938	C, W	D, S	Flat	Reported yield, 7 to 8 gallons a minute. Deepest well in vicinity.
227	3.1	270.9	Sept. 22, 1938	None	N	do.	
230	1.7	272.6	Sept. 27, 1938	C, W	D, S	do.	Water from sand and gravel.
233	0.8	290.5	do.	C, W	D, S	do.	
234	1.8	292.4	Oct. 15, 1938	C, W	D, S	do.	
241	--	300	<u>e/</u>	C, W	D, S	do.	Well sealed at surface.
242	0	322.4	Sept. 27, 1938	None	N	do.	Water level questionable.
243	1	331.6	do.	C, W	D, S	do.	
244	--	--	--	C, W	P	do.	
251	--	265	<u>e/</u>	C, W	D, S, I	Slope	Struck gravel at 265 feet. Estimated yield, 2 gallons a minute.
252	1	270.2	Sept. 22, 1938	None	N	Rolling	Located near dry lake.
253	1	285.1	Sept. 21, 1938	C, W	D, S	Flat	Estimated yield, 2 gallons a minute.
254	--	290	<u>e/</u>	C, W	D, S	Draw	Do.
255	--	263	<u>e/</u>	C, W	D, S	Flat	Do.
256	--	290	<u>e/</u>	C, W	D, S	do.	Do.
257	--	185	<u>e/</u>	C, W	S	Near lake	Supplies water to lake to maintain fish.
264	--	210	<u>e/</u>	C, W	D, S	Slope	Well sealed at surface.
265	--	260	<u>e/</u>	C, W	D, S	Draw	Do.
266	2	252.6	Sept. 22, 1938	None	N	do.	
267	--	260	<u>e/</u>	T, E, 10	P	Flat	Reported yield, 50 gallons a minute.
268	--	260	<u>e/</u>	T, E, 7½	P	do.	Reported yield, 20 gallons a minute.
269	--	208	<u>e/</u>	C, W	D, S	Slope	Estimated yield, 2 gallons a minute.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth or well (ft.)	Diam-eter of well (in.)
270	18 miles southeast	90, NE $\frac{1}{4}$ NE $\frac{1}{4}$	E. & G.W. R.R., blk. B-3	J. W. Knork	C. W. Crowell	1908	278	4 $\frac{1}{2}$
271	do.	57, SW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	M. Weller	do.	1904	292	4 $\frac{1}{2}$
272	do.	56, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Jno. M. Britten	do.	1907	298	4 $\frac{1}{2}$
301	9 miles northwest	17, NE $\frac{1}{4}$ SE $\frac{1}{4}$	blk. T	C. F. Moore	--	Old	378	5
302	do.	3, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	C. L. Thorp	Henry Duby	1917	350	4 $\frac{1}{2}$
d/303	do.	2, SW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	Agnes Howe	Cal. Montgomery	1905	272	4 $\frac{1}{2}$
d/304	8 miles northwest	18, NE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	Dora Frashier	--	--	398	--
305	7 miles northwest	20, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	C. L. Thorp	--	Old	381	4 $\frac{1}{2}$
306	8 miles northwest	1, SW $\frac{1}{4}$ SE $\frac{1}{4}$	do.	L. A. Whiteside	Sill Wright	1919	260	4 $\frac{1}{2}$
307	7 miles north	92, NE $\frac{1}{4}$ NE $\frac{1}{4}$	T. T. R. R., blk. 2	V. H. Fuqua	--	Old	258	4 $\frac{1}{2}$
d/308	6 $\frac{1}{2}$ miles northwest	93, SW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	J. L. Silcott	--	Old	360	4 $\frac{1}{2}$
309	5 $\frac{1}{2}$ miles northwest	40, NE $\frac{1}{4}$ SE $\frac{1}{4}$	blk. T	G. E. Bailey	--	Old	400	4 $\frac{1}{2}$
310	3 $\frac{1}{2}$ miles north	86, NE $\frac{1}{4}$ SE $\frac{1}{4}$	T. T. R. R., blk. 2	J. E. O'Keefe	--	Old	334	4 $\frac{1}{2}$
311	4 $\frac{1}{2}$ miles north	64, NE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	C. L. Thorp	Frank Neal	1931	381	5 $\frac{1}{2}$
312	8 miles north	59, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	L. C. Shepard	--	--	337	4 $\frac{1}{2}$
d/313	7 miles north	62, NE $\frac{1}{4}$ NW $\frac{1}{4}$	do.	R. F. Curratt	--	Old	222	5
314	do.	60, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Ethel L. Holcomb	--	Old	272	4 $\frac{1}{2}$
d/315	4 $\frac{1}{2}$ miles north	34, SE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	J. C. Worthington	--	--	343	5
d/316	3 $\frac{1}{2}$ miles north	35, NW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Dean Muhlissen	--	--	301	4 $\frac{1}{2}$
322	3 $\frac{1}{2}$ miles northeast	26, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	F. E. Bender	--	1900	338	5
323	do.	7, SW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	J. C. Worthington	--	Old	350	--
324	3 $\frac{1}{2}$ miles east	3, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Gulf Pipe Line Co.	D. L. McDonald	1927	650	8-5/8
325	1 $\frac{1}{2}$ miles east	23, NW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	M. S. Canedy Est.	--	1905	333	4 $\frac{1}{2}$
326	2 $\frac{1}{2}$ miles southeast	21, N $\frac{1}{4}$ NW $\frac{1}{4}$	do.	J. Lill	--	Old	360	4
d/327	1 $\frac{1}{2}$ miles south	31, NE $\frac{1}{4}$ NW $\frac{1}{4}$	T. T. R. R., blk. 2	J. O. Bender	--	Old	346	4 $\frac{1}{2}$
328	1 mile south	69, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	G. L. Sims	--	Old	348	4 $\frac{1}{2}$

S. F. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
270	0.6	258.5	Sept. 22, 1938	C, W	D	Flat	Estimated yield, 2 gallons a minute.
271	1	260.5	do.	C, W	D, S	do.	Do.
272	--	268	e/	C, W	D, S	do.	Water from sand and gravel. Well sealed at surface.
301	0.5	356.8	Nov. 13, 1938	C, W	N	do.	
302	--	335	e/	C, W	D, S	do.	Water from quicksand that fills bottom of well occasionally.
303	0	258.8	Nov. 19, 1938	C, W	S	Slope	
304	1	340.1	Nov. 11, 1938	C, W	N	Flat	
305	--	285	e/	C, W	D, S	In draw	Well sealed at surface.
306	--	--	--	C, W	D, S	Slope	Water from fine-grained sand.
307	1.5	237.6	Nov. 16, 1938	C, W	S	Draw	
308	1.5	318.7	Oct. 12, 1938	C, W	N	Flat	
309	--	370	e/	C, W	F	Draw	Well sealed at surface. Deeper than nearby well.
310	0.2	330.6	Oct. 4, 1938	C, W	D, S	Flat	Reported weak supply; pumps sand occasionally.
311	--	285	e/	C, W	D, S	Slope	Water from coarse-grained sand and gravel.
312	1.1	308.9	Oct. 12, 1938	C, W	D, S	do.	Struck rock at 337 feet.
313	1	184.9	Oct. 3, 1938	C, W	S	Draw	
314	--	240	e/	C, W	D, S	Flat	
315	0.3	317.2	Oct. 15, 1938	None	N	do.	
316	--	--	--	None	N	Slope	Dry at 301 feet. Located near dry lake.
322	0	313.3	Oct. 15, 1938	C, W	D, S	Flat	
323	--	300	e/	C, W	D, S	do.	Well sealed at surface.
324	--	298	e/	A, G, --	Ind	do.	Reported drawdown, 22 feet after pumping 55 gallons a minute for 6 hours.
325	1	312.8	Oct. 13, 1938	C, W	D, S	do.	
326	--	300	e/	C, W	D	do.	Obstruction at 299 feet. Reported weak supply.
327	0.5	322.9	Oct. 4, 1938	None	N	Flat	
328	0.3	316.2	Oct. 3, 1938	C, W	D, S	do.	

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
329	In Panhandle	52, NW $\frac{1}{4}$ NW $\frac{1}{4}$	T. T. R. R., blk. 2	F. & S. E. R. R.	D. L. McDonald	1929	55	2
d/330	do.	53, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	City of Panhandle	do.	Old	525	24
351	do.	68, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	do.	do.	1926	523	24
332	do.	69, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	C. E. Deahl	J. D. McGraff	1898	387	4
d/333	2 $\frac{1}{2}$ miles west	2, NE $\frac{1}{4}$ NE $\frac{1}{4}$	A. B. & M., blk. 3	Frank E. Ware	C. E. Meacher	--	365	4
d/334	do.	do.	do.	do.	--	Old	365	4 $\frac{1}{2}$
335	do.	1, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	John Haggard	--	--	344	--
d/336	do.	61, SE $\frac{1}{4}$ SE $\frac{1}{4}$	blk. T	P. K. Burum	--	1911	350	4 $\frac{1}{2}$
337	do.	do.	do.	do.	C. L. Weaker	1937	520	4 $\frac{1}{2}$
338	4 $\frac{1}{2}$ miles west	62, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	M. B. Welsh	J. D. McGraff	1900	395	4 $\frac{1}{2}$
339	6 miles northwest	42, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Mrs. Elizabeth Welsh	--	Old	348	--
340	7 $\frac{1}{2}$ miles northwest	38, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Leo F. Detten	--	1889	376	4
341	6 $\frac{1}{2}$ miles northwest	43, SE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	P. K. Burum	--	1919	355	4 $\frac{1}{2}$
342	6 $\frac{1}{2}$ miles west	65, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	C. E. Bilbrey	--	1905	325	4 $\frac{1}{2}$
d/343	do.	3, NE $\frac{1}{4}$ NE $\frac{1}{4}$	J. H. Gibson, blk. M-4	G. W. Guryea	--	--	--	--
d/344	4 $\frac{1}{2}$ miles west	17, SW $\frac{1}{4}$ SE $\frac{1}{4}$	A. B. & M., blk. 3	R. D. Gist	--	1936	385	6-5/8
345	4 $\frac{1}{2}$ miles west	14, NW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	Vivian A. Price	--	Old	350	6
346	6 miles southwest	29, SE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Harry W. Ware	--	--	350	4 $\frac{1}{2}$
347	5 $\frac{1}{2}$ miles southwest	21, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	C. B. Chenowith	--	Old	385	4 $\frac{1}{2}$
348	3 $\frac{1}{2}$ miles southwest	30, NW $\frac{1}{4}$ NW $\frac{1}{4}$	T. T. R. R., blk. 2	T. M. Cleck	--	1925	360	4
349	4 miles southwest	4, SE $\frac{1}{4}$ SE $\frac{1}{4}$	A. B. & M., blk. 3	J. D. Bender	--	1920	362	4 $\frac{1}{2}$
350	5 miles southwest	6, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Henry Werner	--	1930	360	4 $\frac{1}{2}$
351	5 $\frac{1}{2}$ miles southwest	78, NW $\frac{1}{4}$ SW $\frac{1}{4}$	T. T. R. R., blk. 2	A. D. Bender	--	Old	330	4 $\frac{1}{2}$
352	4 $\frac{1}{2}$ miles south	75, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	L. F. Cleck	--	1903	333	4
353	4 $\frac{1}{2}$ miles southeast	12, NW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	W. M. Bender	--	Old	310	4 $\frac{1}{2}$

a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.

b/ C, cylinder; Cf, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.

c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) <u>a/</u>	Water level		Pump and power <u>b/</u>	Use of water <u>c/</u>	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
329	--	332	<u>e/</u>	C, A, 75	Ind	Flat	Reported drawdown, 14 feet after pumping 330 gallons a minute for
330	--	300	<u>e/</u>	A, E, 175	P	Sink	Reported several hours. See log. yield, 250 gallons a minute. Stand-
331	--	300	<u>e/</u>	A, E, 175	P	Slope	Reported yield, 350 gal- by well. lons a minute. Well 2.
332	0	321.9	Nov. 11, 1938	None	F	do.	Reported casing corroded.
333	--	330	<u>e/</u>	C, W	D, S	Flat	Could not measure water level.
334	--	--	--	None	K	do.	Encountered obstruction at 12 feet.
335	0.6	325.7	Oct. 4, 1938	C, W	D, S	do.	
336	--	327	<u>e/</u>	None	F	do.	Dry at 316 feet.
337	--	327	<u>e/</u>	C, W	D, S	do.	Blue clay, 400 to 500 feet; water from quicksand, 500 to 527 feet.
338	0.7	319.2	Nov. 2, 1938	C, W	D, S	Slope	Water from fine-grained sand; fills bottom of well occasionally. Located
339	1	341.9	do.	C, W	D, S	do.	near large sink.
340	1	342.3	Oct. 12, 1938	C, W	D, S	Flat	Reported gas pressure causes well to blow occasionally. Water from
341	--	320	<u>e/</u>	C, W	D, S	Slope	Well sealed coarse-grained sand. at surface.
342	--	308	<u>e/</u>	C, W	D, S	Sink	Reported gas pressure causes well to blow occasionally. Water from
343	--	340	<u>e/</u>	C, W	D, S	Slope	Well sealed at coarse-grained sand. surface.
344	--	335	<u>e/</u>	C, W	D, S	do.	
345	0.5	334	Nov. 10, 1938	C, W	D, S	Flat	Water level questionable.
346	1	336	Oct. 29, 1938	C, W	D, S	Slope	Do.
347	--	315	<u>e/</u>	C, W	D, S	do.	Water from fine-grained sand; fills bottom of well occasionally.
348	0.5	332	Oct. 29, 1938	C, W	D, S	Flat	Reported weak supply from fine-grained sand.
349	--	334	<u>e/</u>	C, W	D, S	do.	Water from coarse-grained gravel.
350	--	348	<u>e/</u>	C, W	D, S	do.	Water from fine-grained sand.
351	1	325.4	Oct. 30, 1938	C, W	D, S	do.	
352	0.8	318.3	do.	C, W	D, S	Slope	Water from fine-grained sand; struck rock at 332 feet.
353	1	305	Oct. 13, 1938	C, W	D, S	do.	Leaky pipe caused poor water level measurement.

d/ No water sample collected.

e/ Water level reported.

f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Records of wells in Carson County- Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
d/354	6½ miles southeast	14, SW¼	T. T. R. R., blk. 2	J. Labue	Miles & Collins	1898	266	5-5/8
d/355	6½ miles south	16, NW¼	do.	C. D. Smith	--	Old	341	4½
356	8 miles south	4, SW¼	H. & G. N. R.R., blk. B-4	Florence Weatherby	--	1891	330	--
d/357	8½ miles south	5, SW¼	do.	Mary Lawrence	--	--	317+	--
d/358	9 miles south	36, SW¼	do.	T. T. Heyter	C. W. Crowell	1925	427	4½
359	do.	33, SW¼	do.	Alena A. Gayden	--	1911	323	4½
d/360	do.	34, SE¼	do.	Wm. Hudson	--	1923	490	4½
361	10½ miles south	73, SE¼	do.	R. W. Calliham	--	--	235	--
d/362	9 miles south	33, SE¼	do.	Conway School	--	Old	315	4½
363	8½ miles south	54, NW¼	do.	Mrs. H. L. Calliham	--	--	338	4½
364	8 miles south	8, SE¼	do.	do.	--	Old	--	4½
365	7 miles south	6, SW¼	T. T. R. R., blk. 2	J. T. Ketchum	--	1921	395	4½
d/366	9 miles south	32, SW¼	H. & G. N. R.R., blk. B-4	Ed. Reeves	--	Old	301+	4½
367	10 miles southwest	31, SE¼	do.	M. G. Walker	--	1898	230	4½
368	10½ miles southwest	52, NW¼	do.	J. A. Burgin	--	--	210	4½
369	7 miles southwest	14, SE¼	A. B. & M., blk. 5	M. G. Walker	--	1930	359	5-5/8
370	do.	23, NE¼	do.	G. Ingram	--	1918	331	5½
375	8½ miles southwest	26, SE¼	do.	F. L. & C. M. Percock	--	Old	279	4½
376	9 miles southwest	2, NW¼	J. H. Gibson, blk. M-4	do.	--	--	310	4½
377	9½ miles southwest	11, NE¼	do.	Eather S. Ingram	Bill Wright	1915	324	5½
378	10 miles southwest	10, NW¼	do.	Frank A. Metcalf	--	Old	500	4½
379	11 miles southwest	14, SE¼	H. & G. N. R.R., blk. B-4	E. E. Ewing	-- Oates	1911	409	5
401	14 miles northwest	11, NE¼	blk. T	C. Purvines	--	1928	425	4½
402	13 miles northwest	6, NE¼	do.	do.	Frank Neal	1928	509	4½
403	12 miles northwest	7, NW¼	do.	Mark Skiles	--	Old	260	4½
404	10 miles northwest	16, NW¼	do.	M. L. Purvines	--	1919	396	4½
405	9½ miles northwest	25, NE¼	do.	C. E. Deahl	Frank Neal	1906	430	3½

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
354	0.5	174.1	Oct. 6, 1938	None	N	Flat	Reported casing corroded.
355	0	328.8	do.	None	N	do.	
356	--	300	e/	C,W	D,S	do.	Well sealed at surface.
357	--	--	--	C,W	D	do.	Dry at 317 feet.
358	--	300	e/	C,W	--	do.	
359	--	300	e/	C,W	D,S	do.	Water from quicksand; bottom fills with sand frequently.
360	--	500	e/	None	N	do.	Owner drilled six wells on farm; each encountered three gypsum water sands.
361	1	218.3	Sept. 7, 1938	C,W	S	do.	Estimated yield, 2 gallons a minute.
362	1	289.5	Oct. 31, 1938	C,W	P	do.	Well being cleaned out, Oct. 31, 1938.
363	0.8	316.9	Oct. 13, 1938	C,W	D,S	do.	
364	0.9	322	Nov. 8, 1938	C,W	D,S	do.	Water level measurement correct within one foot.
365	--	315	e/	C,W	D,S	do.	Well sealed at surface.
366	--	--	--	C,W	N	do.	Dry at 301 feet.
367	--	225	e/	C,W	D,S	do.	Well sealed at surface.
368	0.5	198.2	Sept. 7, 1938	C,W	D,S	do.	Wood tank at well.
369	--	301	e/	C,W	D,S	Slope	Reported yield, 15 gallons a minute.
370	--	312	e/	C,W	D,S	do.	Reported yield, 13 gallons a minute; gas pressure in well will blow out match flame.
375	0.8	243.5	Oct. 29, 1938	C,W	D,S	do.	
376	0	300	Oct. 31, 1938	C,W	D,S	do.	Crooked hole prevented accurate water level measurement.
377	0	292	Nov. 9, 1938	C,W	S	do.	
378	--	300	e/	C,W	S	Sink	
379	--	369	e/	C,W	D,S	Flat	
401	--	400	e/	C,W	S	Ridge-top	Reported weak supply from fine-grained sand.
402	--	409	e/	C,W	S	do.	Water from quicksand.
403	0	240	Nov. 12, 1938	C,W	S	Draw	Reported weak supply.
404	--	375	e/	C,W	D,S	Flat	Water from fine-grained sand.
405	--	360	e/	C,W	D,S	Slope	Do.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
d/48	9 miles northwest	36, SW ¹ SE ¹ ₄	blk. T	C. E. Deahl	Ge Jameson	1889	360	4 ¹ / ₂
d/47	10 miles northwest	35, NW ¹ SE ¹ ₄	do.	do.	--	Old	380	4 ¹ / ₂
49	12 miles northwest	22, SE ¹ SW ¹ ₄	do.	Opal Purviance	Frank Neal	1924	416	4 ¹ / ₂
d/49	13 miles west	29, SW ¹ SE ¹ ₂	do.	C. Purviance	Frank Jackson	1938	421	6
410	15 miles west	5, SW ¹ NE ¹ ₄	J. E. & K., blk. 1	do.	--	1926	445	6
411	13 ¹ / ₂ miles west	25, SE ¹ NE ¹ ₄	B. S. & F., blk. 1	T. J. Buschkoeter	--	1915	476	4 ¹ / ₂
412	13 miles west	53, SW ¹ SE ¹ ₄	J. H. Gibson, blk. M-4	O. F. Russ	--	--	420	4 ¹ / ₂
413	11 miles west	56, NW ¹ NE ¹ ₄	do.	Ben Haiduk	--	Old	409	4 ¹ / ₂
414	10 miles west	68, SW ¹ SE ¹ ₄	blk. T	Ed & Ray Siero	--	Old	236	4 ¹ / ₂
415	11 miles west	48, SE ¹ SW ¹ ₄	do.	R. E. Masterson	--	--	420	4 ¹ / ₂
416	10 miles west	54, NE ¹ NE ¹ ₄	do.	do.	--	--	400	4 ¹ / ₂
417	9 miles west	55, SE ¹ SE ¹ ₄	do.	A. D. Bender	--	--	390	4 ¹ / ₂
418	8 ¹ / ₂ miles west	20, SE ¹ NE ¹ ₄	J. H. Gibson, blk. M-4	F. W. Vance	S. Petzer	1912	360	4 ¹ / ₂
419	7 ¹ / ₂ miles west	16, NE ¹ SE ¹ ₄	do.	J. D. Bender	Bill Wright	1928	380	4 ¹ / ₂
420	8 miles west	15, NE ¹ SE ¹ ₄	do.	W. H. Obrecht	--	Old	383	4 ¹ / ₂
421	9 ¹ / ₂ miles west	22, SE ¹ SW ¹ ₄	do.	M. Garretson	--	--	360	4 ¹ / ₂
422	10 ¹ / ₂ miles west	37, SE ¹ SE ¹ ₄	do.	E. E. Lusk	C. E. Maker	1938	400	4 ¹ / ₂
423	12 miles west	49, NE ¹ NW ¹ ₄	do.	H. H. Kimble	Frank Neal	1930	401	4-5/8
424	13 miles west	55, SW ¹ SW ¹ ₄	do.	A. F. Buschkoeter	Edgar Reet	1938	406	4 ¹ / ₂
425	13 ¹ / ₂ miles west	58, SW ¹ SW ¹ ₄	do.	Mary B. Leonold	--	1934	348	4 ¹ / ₂
426	14 miles west	6, S ¹ / ₂	Lyman Brewer	F. C. Klineke	--	--	330	4 ¹ / ₂
427	14 ¹ / ₂ miles west	3, SE ¹ NE ¹ ₄	A. B. & M., blk. 2	G. F. Reef	--	1910	360	4 ¹ / ₂
428	12 ¹ / ₂ miles southwest	46, NE ¹ SW ¹ ₄	J. H. Gibson, blk. M-4	J. C. Berg	--	1915	359	4 ¹ / ₂
429	12 miles southwest	41, NE ¹ SW ¹ ₄	do.	J. C. Vance	--	1903	507	4 ¹ / ₂
d/430	10 ¹ / ₂ miles southwest	29, NW ¹ NE ¹ ₄	do.	J. L. Shank	--	Old	390	4 ¹ / ₂
431	11 miles southwest	25, SW ¹ SW ¹ ₄	do.	J. A. Kneirim	--	Old	242	4 ¹ / ₂
432	12 miles southwest	38, SW ¹ SW ¹ ₄	do.	C. E. Deahl	--	1905	245	4 ¹ / ₂

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) a/	Water level		Pump and power b/	Use of water c/	Topographic situation	Remarks
		Depth below measuring point (ft.)	Date of measurement				
406	--	355	e/	C, W	D, S	Flat	
407	0.5	369.8	Nov. 11, 1938	None	I	do.	
408	0.5	390.3	do.	C, W	F, S	do.	Water from fine-grained sand.
409	--	408	e/	C, W	S	Slope	Do.
410	--	350	e/	C, W	D, S	Draw	Do.
411	0.4	405.9	Oct. 7, 1938	C, W	D, S, I	Flat	Perforated casing. Water from coarse-grained sand.
412	--	590	e/	C, W	D, S	do.	Well sealed at surface.
413	0.7	385	Oct. 7, 1938	C, W	D, S	do.	Water level questionable.
414	2	227.8	do.	C, W	D, S	Slope	Do.
415	--	400	e/	C, W	D, S	Flat	Encountered obstruction at 50 feet.
416	0	344.6	Nov. 1, 1938	C, W	S	Slope	Water level while pumping, 366 feet.
417	1	356.5	do.	C, W	D, S, P	Flat	Supplies water for Pleasant Plains School.
418	--	351	e/	C, W	D, S	Slope	Well sealed at surface.
419	0.9	349.4	Nov. 10, 1938	C, W	D, S	do.	Water level while pumping, 356 feet.
420	0.7	354.7	Oct. 14, 1938	C, W	--	Flat	
421	1	355.6	Oct. 7, 1938	C, W	D, S	do.	
422	--	365	e/	C, W	F, S	Slope	Leaking casing prevented accurate water level measurement. Water from gravel.
423	--	325	e/	C, W	D, S	do.	Do.
424	0.8	385.4	Oct. 7, 1938	C, W	D, S, I	Flat	Perforated steel casing. Water from coarse-grained sand.
425	0.8	299.8	Oct. 3, 1938	C, W	D, S	Side of draw	Drilled to "Red Beds" at 375 feet. Reported weak supply.
426	--	304+	e/	C, W	D, S	Flat	Dry at 304 feet.
427	--	340	e/	C, W	D, S	Slope	Reported yield, 7 gallons a minute from coarse-grained sand.
428	--	274	e/	C, W	D, S	Flat	Water from light-gray sand.
429	--	300	e/	C, W	D, S	Slope	Wet walls prevented accurate water level measurement.
430	--	337	e/	C, W	D, S	Flat	Water from coarse-grained sand and gravel.
431	0.8	226.9	Oct. 14, 1938	C, W	D, S	Slope	Located near dry lake.
432	--	225	e/	C, W	S	do.	Well sealed at surface.

Records of wells in Carson County--Continued

No.	Distance from Panhandle	Section	Survey & block	Owner	Driller	Date completed	Depth of well (ft.)	Diameter of well (in.)
433	12 miles southwest	16, NW $\frac{1}{4}$ NW $\frac{1}{4}$	H. & G. N. R. R., blk. B-4	J. W. Randall	--	Old	294	4 $\frac{1}{2}$
439	do.	16, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	L. A. Wells	--	1923	192	4
440	do.	26, SW $\frac{1}{4}$ SE $\frac{1}{4}$	do.	N. H. Read	--	Old	183	4 $\frac{1}{2}$
441	do.	55, NW $\frac{1}{4}$ NE $\frac{1}{4}$	do.	J. F. Sterling	--	1900	200	4
447	13 miles southwest	25, SW $\frac{1}{4}$ SW $\frac{1}{4}$	do.	Idell Durrett	--	Old	207	4 $\frac{1}{2}$
448	do.	17, SW $\frac{1}{4}$ NW $\frac{1}{4}$	do.	F. M. Sweeney	-- Jenkins	1921	274	4 $\frac{1}{2}$
454	14 miles southwest	19, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	R. W. Adams	--	1910	258	4 $\frac{1}{2}$
d/455	15 miles southwest	59, NE $\frac{1}{4}$ NE $\frac{1}{4}$	do.	Lena Druin	--	--	218	4
d/456	do.	22, NE $\frac{1}{4}$ SW $\frac{1}{4}$	do.	R. W. Adams	--	1906	199	4 $\frac{1}{2}$
457	do.	20, SE $\frac{1}{4}$ SE $\frac{1}{4}$	do.	M. F. Smith	--	Old	254	4
458	16 $\frac{1}{2}$ miles southwest	7, NW $\frac{1}{4}$ NE $\frac{1}{4}$	A. B. & M. blk. 2	W. L. Smith	E. B. Watson	1929	229	4 $\frac{1}{2}$

a/ Measuring point was usually top of casing, top of pipe clamp or top of pump base.

b/ C, cylinder; Cf, centrifugal; J, jack; A, air or gas lift; T, turbine; W, windmill; E, electric; G, gasoline; number indicates horsepower.

c/ D, domestic; S, stock; Ind, industrial; P, public; I, irrigation; N, not used.

S. W. Adair, Project Superintendent

No.	Height of measuring point above ground (ft.) <u>a</u>	Water level Depth below measuring point (ft.)	Date of measurement	Pump and power <u>b</u>	Use of water <u>c</u>	Topographic situation	Remarks
438	--	234	<u>e</u> /	C, W	D, S	Flat	Reported weak supply.
439	0	173.9	Sept. 13, 1938	C, W	D, S	do.	Do.
440	--	188	<u>e</u> /	C, W	D, S	Slope	
441	0.5	167.3	Nov. 9, 1938	C, W	D, S	do.	
447	0.5	292.5	do.	C, W	D, S	do.	
448	0.7	217.1	Oct. 14, 1938	C, W	D, S	Flat	Reported weak supply.
454	--	223	<u>e</u> /	C, W	D, S	do.	Well sealed at surface.
455	0.2	211.8	Sept. 13, 1938	C, W	N	do.	
456	0.7	170.9	Oct. 14, 1938	C, W	S	Slope	Located near dry lake. Reported weak supply.
457	--	220	<u>e</u> /	C, W	D, S	Flat	Encountered obstruction at 10 feet.
458	--	210	<u>e</u> /	C, W	D, S	do.	Well sealed at surface.

d/ No water sample collected.e/ Water level reported.f/ Information from Baker, C. L., Geology and Underground Waters of the Northern Llano Estacado, University of Texas Bull. 57, 1915.

Table of Drillers' Logs, Carson County, Texas

		Thickness (feet)	Depth (feet)			Thickness (feet)	Depth (feet)
Driller's log of well 1				Driller's log of well 6--Continued			
John Q. Bost tract, 2 miles northwest of Deahl.				Gypsum- - - - - 2 182			
Surface materials- - - - - 20 20				Red clay - - - - - 18 200			
Clay- - - - - 20 40				Gypsum- - - - - 3 203			
Sand- - - - - 115 155				Red clay - - - - - 32 235			
Gypsum - - - - - 10 135				Water sand- - - - - 5 240			
Red rock- - - - - 65 230				Red clay - - - - - 20 260			
Sand- - - - - 10 240				Water sand- - - - - 12 272			
Red rock- - - - - 70 310				Red clay - - - - - 58 330			
Sand- - - - - 10 320				Water sand- - - - - 5 335			
Red rock- - - - - 75 395				Sandy red rock- - - - - 10 345			
Sand- - - - - 20 415				Red clay - - - - - 25 370			
Red rock- - - - - 77 492				Water sand- - - - - 35 405			
Gypsum - - - - - 10 502				Sand- - - - - 25 430			
Red rock- - - - - 28 530				Quicksand - - - - - 5 435			
Gypsum and red shale- - - - - 70 600				Red rock - - - - - 10 445			
Gypsum - - - - - 230 830				Brown clay- - - - - 21 466			
Gypsum and red rock - - - - - 120 950				Lime- - - - - 14 480			
Red rock- - - - - 200 1150				Gypsum and lime - - - - - 10 490			
Red rock and gypsum - - - - - 400 1550				Gypsum and shale - - - - - 10 500			
Blue and red shale with gypsum- - - - - 360 1910				Shale - - - - - 5 505			
Lime- - - - - 431 2341				Lime - - - - - 3 508			
Blue shale - - - - - 7 2348				Gypsum and lime - - - - - 17 525			
Lime, gas - - - - - 57 2405				Gypsum- - - - - 85 610			
Sand, gas - - - - - 20 2425				Red rock - - - - - 10 620			
Lime, gas - - - - - 95 2520				Gypsum- - - - - 70 690			
Blue shale, gas - - - - - 3 2523				Blue shale- - - - - 30 720			
Lime- - - - - 110 2633				Sandy lime, salt water- - - - - 5 725			
Blue shale - - - - - 4 2637				Sand - - - - - 10 735			
Lime, some gas - - - - - 133 2770				Lime - - - - - 10 745			
Blue shale - - - - - 3 2773				Blue shale- - - - - 15 760			
Lime- - - - - 17 2790				Brown shale - - - - - 5 765			
Blue shale - - - - - 7 2797				Sand - - - - - 25 790			
Lime- - - - - 33 2830				Shale - - - - - 40 830			
Blue shale - - - - - 4 2834				Quicksand - - - - - 40 870			
Sandy gray lime - - - - - 14 2848				Red shale - - - - - 5 875			
Red rock, granite wash - - - - - 4 2852				Gypsum and shale - - - - - 3 878			
TOTAL DEPTH 2852				Red shale - - - - - 47 925			
CASING RECORD: 479 feet of 12 $\frac{1}{2}$ -inch and 2,371 feet of 8 $\frac{1}{2}$ -inch casing.				Red clay - - - - - 21 946			
				Brown shale - - - - - 17 963			
				Red rock - - - - - 3 966			
				Gypsum- - - - - 68 1034			
				Red rock - - - - - 2 1036			
				Gypsum, shale and red rock- - - - - 26 1062			
				Salt and gypsum - - - - - 17 1079			
				Salt and red rock - - - - - 109 1188			
				Sand - - - - - 37 1225			
				Gypsum, sandy lime and shale - - - - - 5 1230			
				Shale, sand and salt - - - - - 155 1385			
				Salt - - - - - 80 1465			
				Shale - - - - - 28 1493			
				Shale, salt and gypsum- - - - - 5 1498			
				(Continued on next page)			
Driller's log of well 6							
J. M. Sanford tract, 3-3/4 miles east of Deahl.							
White sand - - - - - 16 16							
Gypsum - - - - - 3 19							
Gray sand - - - - - 18 37							
Coarse-grained sandy lime- - - - - 9 46							
Red rock- - - - - 10 56							
Sandy lime - - - - - 17 73							
Red clay- - - - - 72 145							
Red sand rock, water- - - - - 15 160							
Clay- - - - - 20 180							

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 6--Continued</u>		
Gypsum - - - - -	12	1510
Salt and shale - - - -	122	1632
Lime and blue shale - -	18	1650
Salt- - - - -	12	1662
Gypsum and lime - - - -	16	1678
Shale and lime shells -	177	1855
Gypsum and shale- - - -	24	1879
Lime - - - - -	1	1880
Shale - - - - -	15	1895
Lime shell - - - - -	6	1901
Lime and blue shale, water	419	2320
Sandy lime - - - - -	70	2390
Lime- - - - -	130	2520
TOTAL DEPTH		2520
CASING RECORD: 333 feet of 20-inch; 449 feet of 15 $\frac{1}{2}$ -inch; 988 feet of 12 $\frac{1}{2}$ -inch and 1,926 feet of 10-inch casing.		

<u>Driller's log of well 7</u>		
J. M. Huber Corp., 4 miles southeast of Deahl.		
Surface soil- - - - -	3	3
Sand- - - - -	7	10
Caliche - - - - -	20	30
Yellow clay - - - - -	21	51
Sand- - - - -	14	65
Caliche - - - - -	45	110
Sand- - - - -	18	128
Water sand - - - - -	1	129
Yellow clay - - - - -	6	135
Water sand - - - - -	7	142
Clay- - - - -	2	144
Sand- - - - -	21	165
Water sand - - - - -	5	170
Rock- - - - -	5	175
Red beds- - - - -	35	210
TOTAL DEPTH		210
CASING RECORD: 142 feet of 8-inch and 30 feet of 6-inch casing.		

<u>Driller's log of well 8</u>		
J. M. Huber Corp., 3-3/4 miles southeast of Deahl.		
Soil- - - - -	3	3
Caliche - - - - -	7	10
Sand- - - - -	10	20
Caliche - - - - -	30	50
Sand- - - - -	10	60
Caliche - - - - -	25	85
Sand rock - - - - -	10	95
Water sand - - - - -	1	96
Sand rock - - - - -	11	107
Clay- - - - -	3	110
Sand rock - - - - -	10	120

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 8--Continued</u>		
Water sand - - - - -	20	140
Sand rock- - - - -	10	150
Water sand and gravel -	6	156
Yellow clay - - - - -	1	157
Rock- - - - -	2	159
Red beds- - - - -	43	202
TOTAL DEPTH		202
CASING RECORD: 157 feet of 12 $\frac{1}{2}$ -inch and 45 feet of 10-inch casing.		

<u>Driller's log of well 9</u>		
J. M. Huber Corp., 3 $\frac{1}{2}$ miles southeast of Deahl.		
Soil- - - - -	10	10
Caliche - - - - -	30	40
Sand rock - - - - -	21	61
Water sand - - - - -	1	62
Clay- - - - -	8	70
Sand rock - - - - -	10	80
Clay- - - - -	5	85
Sand rock - - - - -	5	90
Water sand - - - - -	10	100
Sand rock - - - - -	8	108
Water sand and gravel -	4	112
Red beds- - - - -	44	156
TOTAL DEPTH		156
CASING RECORD: 115 feet of 12 $\frac{1}{2}$ -inch and 44 feet of 8 $\frac{1}{2}$ -inch casing.		

<u>Driller's log of well 10</u>		
J. M. Huber Corp., 3 $\frac{1}{2}$ miles southeast of Deahl.		
Surface soil- - - - -	2	2
Caliche- - - - -	6	8
Sand- - - - -	42	50
Caliche - - - - -	25	75
Sand rock - - - - -	8	83
Water sand - - - - -	2	85
Sand rock - - - - -	7	92
Clay- - - - -	8	100
Sand rock - - - - -	10	110
Sand- - - - -	10	120
Water sand - - - - -	5	125
Sand rock - - - - -	12	137
Water sand and gravel -	7	144
Red rock- - - - -	42	186
TOTAL DEPTH		186

<u>Driller's log of well 61</u>		
Gulf Pipe Line Co., 18 miles north of Penhandle.		
Gray gypsum - - - - -	60	60
Water sand - - - - -	2	62
Sand rock- - - - -	8	70

(Continued on next page)

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
Driller's log of well 61--Continued		
Water sand - - - -	4	74
Gray gypsum - - - -	6	80
Red beds- - - -	45	125
Red rock- - - -	100	225
Red sand- - - -	2	227
Red rock- - - -	18	245
Red sand- - - -	15	260
Red rock- - - -	20	280
Sand- - - -	5	285
Red rock- - - -	25	310
Red sand rock - - -	5	315
Red sand- - - -	30	345
Hard-packed white sand -	5	350
TOTAL DEPTH		350

Driller's log of well 62		
Gulf Pipe Line Co., 18 miles north of Panhandle.		
Sandy caliche- - - -	100	100
Gypsum - - - -	5	105
Hard-packed gypsum - -	5	110
Red rock- - - -	85	195
Red water sand - - -	10	205
Red rock- - - -	110	315
Red water sand - - -	12	327
Red rock- - - -	26	353
Gypsum - - - -	3	356
Red rock- - - -	16	372
Sand and gravel - - -	5	377
TOTAL DEPTH		377
CASING RECORD: 100 feet of 12 $\frac{1}{2}$ -inch and 350 feet of 10 $\frac{3}{4}$ -inch casing.		

Driller's log of well 64		
S. B. Burnett Est., 17 $\frac{1}{2}$ miles north of Panhandle.		
Sand and lime - - -	30	30
Red rock- - - -	30	60
Quicksand - - - -	10	70
Red rock, little water	50	120
Sand- - - -	5	125
Red rock- - - -	45	170
Lime, shell - - - -	6	176
Red rock- - - -	6	182
Lime- - - -	15	197
Sandy broken lime - -	18	215
Red shale and broken lime	20	235
Water sand - - - -	5	240
Lime- - - -	5	245
Red sand- - - -	13	258
Quicksand - - - -	17	275
Red sand- - - -	135	410
Gypsum and lime - - -	8	418
Lime- - - -	107	525

	Thickness (feet)	Depth (feet)
Driller's log of well 64--Continued		
Chocolate-colored rock -	3	528
Broken lime - - - -	97	625
Brown shale - - - -	53	678
Sandy lime - - - -	7	685
Sand- - - -	15	700
Brown shale - - - -	60	760
Red rock- - - -	55	815
Lime and shells - - -	20	835
Red rock- - - -	70	905
Red sand- - - -	15	920
Red rock- - - -	180	1100
Red rock and salt - -	255	1355
Brown shale - - - -	10	1365
Blue shale - - - -	15	1380
Rock salt - - - -	40	1420
Shale and salt - - -	195	1615
Blue shale and salt - -	50	1665
Shale and salt - - -	15	1680
Lime- - - -	6	1686
Blue shale - - - -	20	1706
Gray lime - - - -	19	1725
Blue shale - - - -	15	1740
Blue shale and red beds -	50	1790
Red rock- - - -	30	1820
Blue shale - - - -	5	1825
Red rock- - - -	100	1925
Red rock and gypsum - -	40	1965
Blue shale - - - -	15	1980
Lime- - - -	40	2020
TOTAL DEPTH		3052

Driller's log of well 65		
S. B. Burnett Est., 17 miles north of Panhandle.		
Surface soil- - - -	5	5
Hard white dolomite - -	10	15
Sandy red shale - - -	115	130
Water sand - - - -	70	200
Soft-packed sandy red shale	25	225
Shale, water at 180 feet -	15	240
Soft-packed sandy red shale	100	340
Soft-packed white gypsum-	20	360
Soft-packed blue shale -	28	388
Red and white shale and gypsum- - - -	17	405
Hard white lime - - -	3	408
Soft-packed brown shale -	72	480
Soft white lime - - -	30	510
Soft-packed blue shale -	80	590
Soft-packed brown shale -	25	615
Broken white lime - - -	30	645
Salt rock - - - -	30	675
(Continued on next page)		

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 65--Continued</u>		
White and brown shale and gypsum- - - -	10	685
Red shale - - - -	15	700
Water sand - - - -	30	730
Red shale - - - -	10	740
Salt rock - - - -	20	760
Red salt and shale - -	25	785
Hard white lime - - -	15	800
Red salt and shale - -	40	840
Salt rock- - - -	20	860
Sandy red shale - - -	95	955
Red shale - - - -	15	970
White salt and gypsum -	100	1070
Red salt and shale - -	5	1075
Salt and rock - - - -	5	1080
Red shale - - - -	10	1090
Salt rock - - - -	10	1100
Red salt and shale - -	10	1110
Hard white lime - - -	15	1125
Red shale and shells- -	20	1145
Hard-packed dry white sand - - - -	10	1155
Red shale - - - -	46	1201
White salt, lime and shells	4	1205
Salt and red shale - -	47	1252
White lime shells - - -	18	1270
Red shale and shells- -	5	1275
Sandy shale - - - -	10	1285
Salt rock - - - -	88	1373
Gray lime - - - -	2	1375
Salt rock - - - -	9	1384
White lime - - - -	21	1405
Salt rock - - - -	125	1530
Hard gray lime - - - -	12	1542
Salt rock - - - -	78	1620
White lime - - - -	10	1630
Salt rock - - - -	40	1670
White lime - - - -	15	1685
Blue shale - - - -	27	1712
White lime - - - -	11	1723
Blue shale - - - -	27	1750
Red shale - - - -	45	1795
TOTAL DEPTH		3075

<u>Driller's log of well 68</u>		
S. B. Burnett Est., 17 miles north of Panhandle.		
Surface materials- - -	15	15
Red sand and gravel - -	40	55
Red sand- - - -	135	190
Quicksand - - - -	50	240
Red shale - - - -	17	257
Gypsum - - - -	248	505
Brown shale - - - -	25	530

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 68--Continued</u>		
Broken gypsum- - - -	35	565
Brown shale - - - -	18	583
Gypsum- - - -	17	600
Salt - - - -	73	673
Lime shell- - - -	1	674
Gypsum- - - -	6	680
Red shale - - - -	40	720
Salt and shale - - -	495	1215
Gypsum- - - -	60	1275
Sandy brown shale - -	15	1290
Salt and shale - - -	360	1650
Blue shale - - - -	15	1665
Red shale, gypsum and shells- - - -	290	1955
Blue shale and gypsum -	45	2000
Lime- - - -	11	2011
Broken lime and shale -	9	2020
Lime- - - -	80	2100
Blue shale - - - -	4	2104
Lime- - - -	356	2460
Gas sand- - - -	135	2595
Gray lime - - - -	150	2745
Gas sand- - - -	45	2790
Brown shale-- - - -	30	2820
Gas sand- - - -	30	2850
Brown shale - - - -	53	2903
Lime- - - -	11	2914
Sandy lime - - - -	26	2940
Gas sand- - - -	15	2955
Brown sand - - - -	32	2987
Sandy lime - - - -	3	2990
Granite wash- - - -	10	3000
Sand- - - -	28	3028
TOTAL DEPTH		3028

CASING RECORD: 252 feet of 20-inch; 720 feet of 12 $\frac{1}{2}$ -inch; 1,770 feet of 10-inch; 2,909 feet of 8 $\frac{1}{4}$ -inch; 2,927 feet of 6-5/8-inch and 3,028 feet of 5-3/16-inch casing.

<u>Driller's log of well 74</u>		
Phillips Petroleum Co., 13 $\frac{1}{2}$ miles north-west of Panhandle.		
Surface materials- - -	40	40
Caliche- - - -	10	50
Sand and clay - - - -	18	68
Caliche- - - -	11	79
Sand and clay - - - -	71	150
Yellow clay - - - -	10	160
Sand and clay - - - -	30	190
Yellow clay- - - -	6	196
Sand- - - -	28	224
Caliche - - - -	8	232

(Continued on next page)

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 74--Continued</u>		
Sand and clay - - -	26	258
Fine-grained water sand -	12	270
Yellow clay - - -	1	271
Fine-grained water sand -	2	273
Sandy clay - - -	18	291
Yellow clay - - -	10	301
Fine-grained sand - -	2	303
Sandy clay - - -	16	319
Water sand - - -	2	321
White rock - - -	1	322
Yellow clay - - -	4	326
Water sand - - -	34	360
Yellow clay and sand- -	6	366
Yellow clay - - -	17	383
Coarse-grained water sand-	20	403
TOTAL DEPTH		403

<u>Driller's log of well 75</u>		
S. B. Burnett Est., 13 $\frac{1}{2}$ miles northwest of Panhandle.		
Clay and sand - - -	35	35
Sand- - - -	53	88
Sand and boulders - -	325	413
Sand and shells - -	42	455
Sand rock - - -	20	475
Sand- - - -	5	480
Sand and shells - -	10	490
Red rock and shells -	34	524
Shale and shells- -	300	824
Red rock and gypsum -	116	940
Shale, gypsum and shells-	70	1010
Red rock and gypsum -	50	1060
Gypsum and shale- -	68	1128
Red rock, gypsum and shale	81	1209
Shale, shells and salt -	163	1372
Gypsum, salt and shells -	113	1485
Shale, gypsum and shells-	129	1614
Red shale and gypsum- -	76	1390
Blue shale and gypsum -	81	1771
Sticky gypsum and shells-	41	1812
Red shale and gypsum- -	44	1856
Shale, gypsum and shells-	45	1901
Gypsum and shale- -	121	2022
Lime and gypsum - -	35	2057
Lime, red rock and blue shale - - - -	43	2100
Blue shale - - -	80	2180
Red and blue shale - -	52	2232
Blue shale, gypsum and shells- - - -	47	2279
Gypsum and sticky shale -	61	2340
Gypsum and red shale- -	44	2384
Sticky blue shale - -	5	2389
Blue shale and gypsum shells	26	2415

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 75--Continued</u>		
Lime and blue shale - -	125	2540
Lime- - - -	71	2611
Lime and blue shale - -	36	2647
Sticky blue shale - -	3	2650
Lime- - - -	24	2674
Lime and blue shale - -	100	2774
Lime- - - -	41	2815
Gray lime - - -	25	2840
Dark-colored shale - -	15	2855
Lime, gas - - -	372	3227
TOTAL DEPTH		3227
CASING RECORD: 20 feet of 20-inch; 512 feet of 12 $\frac{1}{2}$ -inch and 2,778 feet of 8-5/8-inch casing.		

<u>Driller's log of well 76</u>		
Phillips Petroleum Co., 13 $\frac{1}{2}$ miles north-west of Panhandle.		
Sand rock- - - -	250	250
Clay and sand- - -	33	283
Sand rock- - - -	10	293
Clay- - - -	12	305
Clay and sand- - -	36	341
Sand rock- - - -	69	410
Red and blue clay and sand	21	431
Clay and sand rock - -	45	476
Sand rock- - - -	24	500
TOTAL DEPTH		500

<u>Driller's log of well 77</u>		
Phillips Petroleum Co., 13 miles north-west of Panhandle.		
Chalky white rock - -	10	10
Sandy red clay- - -	49	59
Red clay- - - -	17	76
Sandy red clay and rock -	11	87
Hard rock - - -	4	91
Sandy clay and rock - -	6	97
Hard rock - - -	4	101
Sandy clay and rock - -	11	112
Sandy clay - - -	8	120
Clay and rock - - -	5	125
Sandy clay - - -	7	132
Yellow clay - - -	24	156
Yellow clay and gravel -	18	174
Sandy yellow clay - -	22	196
Gray water sand - -	14	210
Sandy yellow clay - -	4	214
Gray water sand - -	24	238
Sand and clay - - -	13	251
Yellow clay and sand- -	20	271
Sand- - - -	14	285
Yellow clay - - -	4	289

(Continued on next page)

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 77--Continued</u>		
Sand and gravel - - -	13	302
Loose-packed water sand -	28	330
TOTAL DEPTH		330

<u>Driller's log of well 78</u>		
Phillips Petroleum Co., 13 miles northwest of Panhandle.		
Surface soil- - - -	1	1
Caliche - - - -	17	18
Sandy clay - - - -	112	130
White rock - - - -	35	165
Sand- - - -	40	205
White rock - - - -	12	217
Sand with clay streaks -	108	325
Coarse-grained sand -	73	398
Hard-packed sandstone -	32	430
Gray shale - - - -	32	462
Red shale - - - -	73	535
TOTAL DEPTH		535

<u>Driller's log of well 79</u>		
Phillips Petroleum Co., 12½ miles northwest of Panhandle.		
Sandy black soil- - -	18	18
Red clay- - - -	20	38
Sandy clay - - - -	45	83
Sand and gravel - - -	26	109
Sandy clay and gravel -	14	123
Sandy red clay - - -	9	132
White clay - - - -	43	175
Sandy white clay- - -	15	190
Sandy gray clay - - -	40	230
Water sand - - - -	25	255
White clay - - - -	5	260
Coarse-grained sand and gravel- - - -	10	270
TOTAL DEPTH		270

<u>Driller's log of well 80</u>		
Phillips Petroleum Co., 12 miles northwest of Panhandle.		
Sandy black soil- - -	18	18
Sandy red clay - - -	23	41
Sandy gray clay - - -	40	81
Sandy yellow clay - - -	10	91
Sandy gray clay - - -	27	118
Red sand and gravel - -	9	127
Sandy yellow clay - - -	20	147
White clay and sand - -	78	225
Gray sand and clay - -	43	268
Yellow clay- - - -	3	271
Water sand - - - -	24	295
White clay - - - -	1	296
Water sand - - - -	2	298
TOTAL DEPTH		298

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 81</u>		
Phillips Petroleum Co., 11½ miles northwest of Panhandle.		
Surface soil - - -	5	5
Sand and clay - - -	85	90
Yellow clay - - - -	35	125
Gray clay - - - -	10	135
Sand - - - -	45	180
Clay and sand - - -	27	207
Black sand - - - -	18	225
Yellow clay - - - -	26	251
Black sand - - - -	5	256
Yellow clay - - - -	14	270
Fine-grained gray sand -	44	314
Yellow clay - - - -	16	330
Coarse-grained gray sand-	70	400
Gray shale - - - -	26	426
Red rock - - - -	25	451
TOTAL DEPTH		451

<u>Driller's log of well 82</u>		
Phillips Petroleum Co., 11½ miles northwest of Panhandle.		
Sandy soil - - - -	3	3
Caliche - - - -	15	18
Dry sand and clay - - -	184	202
Yellow clay - - - -	10	212
Sand and gravel - - -	23	235
Clay- - - -	5	240
Clay and sand - - -	10	250
Fine-grained sand - - -	18	268
Sandy white clay- - -	72	340
Yellow clay - - - -	20	360
Fine-grained sand - - -	25	385
Brown clay - - - -	23	408
Sand rock and clay - -	51	459
TOTAL DEPTH - - - -		459

<u>Driller's log of well 107</u>		
B. F. Block tract, 2½ miles north of Skellytown.		
Surface soil- - - -	10	10
Sand and shells - - -	65	75
Sand and gravel - - -	220	295
Red beds- - - -	28	323
Red rock, gypsum and shells	652	975
Salt and gypsum - - -	405	1380
Shale, shells and gypsum	760	2140
Blue shale - - - -	154	2294
Shale and shells- - -	97	2391
Shale, lime and gypsum -	64	2455
Broken lime - - - -	20	2475
Lime - - - -	25	2500
Broken lime - - - -	50	2550
Shale, lime and gypsum -	29	2579
(Continued on next page)		

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
Driller's log of well 107--Continued		
Lime- - - - -	589	3168
TOTAL DEPTH		3168
CASING RECORD: 323 feet of 13-inch and 2,894 feet of 7-inch casing.		

Driller's log of well 108		
E. Cooper tract, 2-3/4 miles northeast of Skellytown.		
White sand - - - -	50	50
Brown sand - - - -	70	120
White sand - - - -	60	180
Yellow sand - - - -	10	190
White sand - - - -	50	240
Yellow clay and sand- -	25	265
Red rock - - - -	35	300
Brown clay - - - -	10	310
Red rock - - - -	60	370
Red sand- - - -	10	380
Sand and gravel - - -	15	395
Red rock- - - -	190	585
Red rock and gypsum - -	15	600
Red rock- - - -	10	610
Red rock and blue shale -	10	620
Gypsum - - - -	10	630
Red rock and gypsum - -	30	660
Gypsum - - - -	10	670
Sand- - - -	5	675
Gypsum - - - -	10	685
Red rock- - - -	10	695
Gypsum - - - -	80	775
Broken lime - - - -	25	800
Shale and broken brown lime - - - -	15	815
Gypsum and salt - - -	60	875
Salt - - - -	65	940
Salt and red rock - - -	85	1025
TOTAL DEPTH		3023
CASING RECORD: 174 feet of 16-inch; 402 feet of 12 1/2-inch; 624 feet of 10-3/4-inch and 2,527 feet of 8-5/8-inch casing.		

Driller's log of well 115		
Julia McConnell tract, 6 1/2 miles south- east of Skellytown.		
Water sand - - - -	---	393
Red beds- - - -	242	635
Gypsum - - - -	5	640
Red rock- - - -	3	643
Gypsum - - - -	37	680
Brown gypsum- - - -	20	700
Broken lime and gypsum -	10	710
White lime - - - -	10	720
White gypsum- - - -	50	770
Brown clay - - - -	30	800

	Thickness (feet)	Depth (feet)
Driller's log of well 115--Continued		
Gypsum - - - -	40	840
Chocolate-colored gypsum-	15	855
Red beds- - - -	45	900
Red beds and quicksand -	30	930
Red quicksand and salt water - - - -	5	935
Red beds and salt - - -	165	1100
Red and blue shale - - -	75	1175
Salt and red shale - - -	115	1290
White lime - - - -	10	1300
Blue shale and lime - - -	20	1320
Red shale and salt - - -	130	1450
Salt- - - -	50	1500
Red shale and salt - - -	50	1550
Blue gypsum - - - -	15	1565
Blue shale - - - -	3	1568
TOTAL DEPTH		3060

Driller's log of well 120		
H. R. Kees tract, 8 miles south of Skellytown.		
Clay- - - -	50	50
Yellow clay - - - -	30	80
Yellow sand - - - -	40	120
Sandy shale - - - -	30	150
Sand and shells - - - -	20	170
Sand and yellow clay- -	30	200
Sand- - - -	15	215
Brown shale - - - -	30	245
Water sand - - - -	120	365
Sand and brown mud - - -	5	370
Red rock gypsum and shells	90	460
Sand- - - -	15	475
Red rock- - - -	45	520
Shale and gypsum- - -	20	540
Red rock and broken gypsum- - - -	25	565
Gypsum - - - -	6	571
Water sand - - - -	4	575
Red rock and broken gypsum	5	580
Blue and red shale - - -	7	587
Gypsum - - - -	105	692
Red mud - - - -	9	701
Gypsum - - - -	9	710
Blue shale - - - -	5	715
Gypsum - - - -	50	765
Red mud - - - -	40	805
Gypsum - - - -	7	812
Red mud - - - -	8	820
Red and blue shale - - -	60	880
Blue shale - - - -	6	886
Water sand - - - -	10	896
Gypsum and shells - - -	4	900

(Continued on next page)

Table of Drillers' Logs, Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 120--Continued</u>		
Sand- - - - -	20	920
Red rock, gypsum and shell	171	1091
TOTAL DEPTH		3336
CASING RECORD: 297 feet of 15 $\frac{1}{2}$ -inch; 589 feet of 12 $\frac{1}{2}$ -inch; 1,115 feet of 10-inch; 2,181 feet of 8 $\frac{1}{2}$ -inch and 2,624 feet of 3-5/8-inch casing.		

<u>Driller's log of well 153</u>		
W. S. Eller tract, 9 $\frac{1}{2}$ miles northeast of Panhandle.		
Surface soil- - - -	25	25
Sand- - - - -	185	210
Celiche- - - - -	60	270
Sand- - - - -	155	425
Red rock- - - - -	17	442
Gypsum - - - - -	20	462
Red rock- - - - -	9	471
Red beds- - - - -	369	840
Red beds, red rock and shells- - - - -	154	994
Red rock, gypsum and shells- - - - -	191	1185
Shale and salt - - -	175	1360
Red shale, gypsum and shells- - - - -	202	1562
Red shale and salt - -	78	1640
Shale, gypsum and shells- -	65	1705
Salt and blue shale - -	210	1915
Lime- - - - -	80	1995
Silt and sticky shale - -	42	2037
Blue shale - - - - -	4	2041
Lime- - - - -	49	2090
Shale - - - - -	19	2109
Shale and broken gypsum -	76	2185
Red shale and hard gypsum	50	2235
Gypsum and shells - - -	27	2262
Shale, gypsum and shells- -	14	2276
Broken sandy gypsum - - -	81	2357
Lime- - - - -	145	2502
Sticky blue shale - - -	22	2524
Shale and broken lime - -	46	2570
Sticky blue shale - - -	8	2578
Blue shale - - - - -	27	2605
Lime and sandy shale - - -	25	2630
Sandy lime - - - - -	22	2652
Broken sandy lime - - -	28	2680
Sticky shale- - - - -	30	2710
Shale and lime - - - - -	52	2762
Broken sandy lime - - -	21	2783
Lime- - - - -	239	3072
Shale and shells- - - - -	5	3077
Lime- - - - -	25	3102
Granite wash- - - - -	327	3429

	Thickness (feet)	Depth (feet)
<u>Driller's log of well 153--Continued</u>		
Gray lime - - - - -	5	3434
Granite wash- - - - -	367	3801
TOTAL DEPTH		3801
CASING RECORD: 462 feet of 12 $\frac{1}{2}$ -inch and 3,094 feet of 7-inch casing.		

<u>Driller's log of well 157</u>		
P. & S. F. R. R. well 5, 11 miles north-east of Panhandle, 1 mile southwest of White Deer.		
Light-red clay - - - -	115	115
Red sand rock- - - - -	19	134
Hard-packed dry clay- - -	16	150
Sandy red clay - - - -	145	295
Coarse-grained water sand- - - - -	30	325
Red clay- - - - -	22	347
TOTAL DEPTH		347

<u>Driller's log of well 162</u>		
P. & S. F. R. R. well 3, at White Deer, 13 miles northeast of Panhandle.		
Surface material- - - -	10	10
Yellow clay - - - - -	86	96
Brown caving sand - - -	9	105
Sandy yellow clay - - -	95	200
Yellow clay - - - - -	40	240
Sandy yellow clay - - -	56	296
Lime rock - - - - -	10	306
Red clay- - - - -	26	332
Red sand rock, water- - -	3	335
Sandy red clay - - - -	10	345
Water-gravel, 5 gpm.- - -	3	348
Sandy red clay - - - -	2	350
Red clay- - - - -	12	362
Sandy red clay - - - -	38	400
Red clay- - - - -	95	495
Red water sand - - - -	20	515
Red clay- - - - -	5	520
Red sand- - - - -	13	533
Red sand, "bad" water - -	24	557
Red clay- - - - -	5	562
TOTAL DEPTH		562

<u>Driller's log of well 329</u>		
P. & S. F. R. R. well 7, at Panhandle.		
Sandy soil - - - - -	5	5
Yellow clay and sand- - -	111	116
Fine-grained dry sand - -	29	145
Clay- - - - -	30	175
Clay and gravel - - - -	3	178
Sand and soapstone - - -	4	182
Fine-grained sand - - - -	18	200

(Continued on next page)

Table of Drillers' Logs, Carson County--Continued

					Thickness (feet)	Depth (feet)						Thickness (feet)	Depth (feet)
Driller's log of well 329--Continued							Driller's log of well 329--Continued						
Sand rock	-	-	-	-	4	204	Sand and clay	-	-	-	-	15	400
Hard-packed clay and							Sand rock-	-	-	-	-	20	420
sand	-	-	-	-	19	223	Yellow clay	-	-	-	-	20	440
Dry sand-	-	-	-	-	47	270	Sand and clay	-	-	-	-	20	460
Clay-	-	-	-	-	5	275	Sand rock-	-	-	-	-	5	465
Clay and gravel	-	-	-	-	30	305	Sand and clay-	-	-	-	-	15	480
Sand rock	-	-	-	-	40	345	Sand rock-	-	-	-	-	20	500
Water sand	-	-	-	-	7	352	Clay and rock-	-	-	-	-	15	515
Sand rock	-	-	-	-	28	380	Sand rock-	-	-	-	-	29	544
Sand-	-	-	-	-	5	385	Sand-	-	-	-	-	6	550
							TOTAL DEPTH						550

Logs of test wells drilled by W. P. A. labor in Carson County, Texas
 Samples examined and classified by S. W. Adair
 Project Superintendent

	Thickness (feet)	Depth (feet)
<u>Well 188</u>		
Bed of dry lake, F. S. & J. S. Strape tract, NW ¹ NW ¹ sec. 105, blk. 7, I. & G. N. R.R. sur., 9 miles east of Panhandle.		
Dark-gray clay - - - -	8	8
Grayish-brown clay - - -	2	10
Sandy brown clay and caliche	15	25
Sandy light-brown clay and caliche - - - -	7	32
White sand and caliche - -	2	34
Rock - - - - -		34
October 14, 1938.		

<u>Well 189</u>		
Bed of dry lake, 400 feet east of well 188, NW ¹ sec. 105, blk. 7, I. & G. N. R.R. sur., 9 miles east of Panhandle.		
Dark-gray clay - - - -	11	11
Medium-gray clay - - -	8	19
Brownish-gray clay - - -	9	28
Sandy brown clay and caliche	5	33
Sandy light-brown clay and caliche - - - -	2	35
Light-gray sand, lime and caliche - - - -	5	40
Sandy light brown clay and caliche - - - -	10	50
Sandy brown clay - - -	5	55
Light-brown sand - - -	1	56
October 15, 1938.		

<u>Well 190</u>		
Bed of dry lake, 900 feet east of well 189, NW ¹ sec. 105, blk. 7, I. & G. N. R.R. sur., 9 miles east of Panhandle.		
Dark-gray clay material - -	6	6
Medium-gray clay - - -	3	9
Sandy brown clay - - -	4	13
Grayish-brown clay - - -	11	24
Gray clay - - - -	9	33
Sandy brown clay and caliche	3	36
Sandy gray clay and caliche	3	39
Sandy brown clay and caliche	3	42
Sandy light-brown clay and caliche - - - -	15	57
Rock - - - - -		59
October 15, 1938.		

<u>Well 191</u>		
Bed of dry lake, 500 feet east of well 190, NE ¹ NW ¹ sec. 105, blk. 7, I. & G. N. R.R. sur., 9 miles east of Panhandle.		
Dark-gray clay - - - -	5	5

	Thickness (feet)	Depth (feet)
<u>Well 191--Continued</u>		
Sandy brown clay and caliche	2	7
Sandy medium-gray clay - -	7	14
Sandy brown clay and caliche	9	23
Sandy brownish-gray clay - -	3	26
Sandy brown clay - - - -	7	33
Sandy brown clay and caliche	2	35
Fine-grained sandy light-brown clay and caliche - -	4	39
Rock - - - - -		39
October 24, 1938.		

<u>Well 192</u>		
Bed of dry lake, 400 feet east of well 191, NE ¹ NW ¹ sec. 105, blk. 7, I. & G. N. R.R. sur., 9 miles east of Panhandle.		
Dark-gray clay - - - -	6	6
Sandy brown clay and caliche	5	11
Brownish-gray clay - - -	5	16
Sandy brown clay - - -	3	19
Sandy brown clay and caliche	8	27
Rock - - - - -		27
October 24, 1938.		

<u>Well 193</u>		
Bed of dry lake, 400 feet east of well 192, NE ¹ NW ¹ sec. 105, blk. 7, I. & G. N. R.R. sur., 9 miles east of Panhandle.		
Medium-gray clay - - -	4	4
Sandy light-brown clay and caliche - - - -	17	21
Sandy brown sand, clay and caliche - - - -	10	31
October 25, 1938.		

<u>Well 210</u>		
Bed of dry lake, T. E. Latta tract, NE ¹ SE ¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.		
Dark-gray clay - - -	6	6
Sandy grayish-brown clay -	3	9
Medium-gray clay - - -	5	12
November 30, 1938.		

<u>Well 211</u>		
Bed of dry lake, 600 feet west of well 210, NE ¹ SE ¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.		
Medium-gray clay - - -	5	5
Light-gray clay - - -	7	12
Sandy light-gray clay - -	5	17
November 30, 1938.		

Logs of U. P. L. test wells in Carson County--Continued

	Thickness (feet)	Depth (feet)
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Well 212

Bed of dry lake, 6⁰⁰ feet west of well 211, sec. 156 blk. 7, I. & G. N. R.R. sur., NW¹SE¹, 15 miles southeast of Panhandle.

Medium-gray clay - - -	7	7
Gray clay with brown streaks 29		36
Sandy yellow clay - - -	5	41
Sandy reddish-brown clay- and caliche - - -	18	59
Sandy brown clay and caliche - - -	17	76
Rock - - -		76

November 3⁰, 1938.

Well 213

Bed of dry lake, 5⁰⁰ feet west of well 212, NE¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay - - -	12	12
Caliche - - -	3	15
Light-brown sand, some clay 15		30

November 28, 1938.

Well 214

Bed of dry lake, 5⁰⁰ feet west of well 213, NE¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Brownish-gray clay - - -	4	4
White caliche - - -	2	6
Rock - - -		6

November 28, 1938.

Well 215

Bed of dry lake, T. E. Latta tract, SW¹SE¹ sec. 156 blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay - - -	4	4
Light-gray caliche - - -	16	20
Sandy light-brown clay, some caliche - - -	13	33

November 22, 1938.

Well 216

Bed of dry lake, 45⁰⁰ feet west of well 215, SE¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay material - - -	7	7
Light-gray caliche - - -	7	14
Sandy light-brown sandy clay- 16		30
Light-gray caliche - - -	1	31
Rock - - -		31

November 25, 1938.

	Thickness (feet)	Depth (feet)
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Well 217

Bed of dry lake, 5⁰⁰ feet west of well 216, SE¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay - - -	7	7
Medium-gray clay - - -	4	11
Light-gray clay - - -	4	15
Sandy light-gray clay and caliche - - -	7	22
Sandy light-gray clay - - -	7	29
Sandy grayish-red clay- - -	7	36
Sandy reddish-brown clay - 13		49
Sandy grayish-brown clay and caliche - - -	4	53
Rock - - -		53

November 8, 1938.

Well 218

Bed of dry lake, 45⁰⁰ feet west of well 217, SE¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay - - -	14	14
Light-gray clay - - -	16	30
Medium-gray clay with red streaks - - -	9	39
Sandy light-gray clay - - -	2	41
Sandy reddish-brown clay - - 26		67
Sandy grayish-brown clay and caliche - - -	3	70
Rock - - -		73

November 7, 1938.

Well 219

Bed of dry lake, 6⁰⁰ feet west of well 218, SW¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay - - -	12	12
Medium-gray clay with brown streaks - - -	4	16
Sandy light gray clay - - -	9	25
Sandy grayish-brown clay and caliche - - -	29	54
Rock - - -		54

November 14, 1938.

Well 220

Bed of dry lake, 5⁰⁰ feet west of well 219, SW¹SW¹ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.

Dark-gray clay - - -	6	6
Light-gray clay and sand- - 2		8

(Continued on next page)

Logs of W. P. , tract in Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Well 220--Continued</u>		
Sandy light-brown clay - - -	15	23
Sandy reddish-brown clay - - -	5	26
November 17, 1938.		

<u>Well 221</u>		
Bed of dry lake, 600 feet east of well 220, NW ¹ / ₄ sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.		
Brownish-gray clay - - -	7	7
Sandy light-gray clay and caliche - - -	2	9
Rock - - -	-	9
November 21, 1938.		

<u>Well 222</u>		
On slope near side of dry lake, county road, SW cor. sec. 156, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.		
Dark-gray top soil - - -	3	3
Sandy dark brown clay - - -	2	5
Sandy dark-gray clay - - -	4	9
Caliche and white sand - - -	1	10
Red clay and caliche - - -	8	18
September 15, 1938.		

<u>Well 224</u>		
Bed of dry lake, J. R. Smith tract, SE ¹ / ₄ sec. 158, blk. 7, I. & G. N. R.R. sur., 15 miles southeast of Panhandle.		
Sandy dark-gray clay topsoil - - -	6	6
Sandy dull-brown clay - - -	9	15
Sandy dark-gray clay - - -	3	18
Sandy light-gray clay - - -	17	35
Sandy white clay and caliche - - -	4	39
Rock - - -	-	39
September 15, 1938.		

<u>Well 228</u>		
Creek bottoms, side of county road, NW ¹ / ₄ sec. 135, blk. 7, I. & G. N. R.R. sur., 12 miles east of Panhandle.		
Dark-gray clay - - -	4	4
Light-brown sand and caliche - - -	6	10
Brownish-red sand and caliche - - -	2	12
Rock - - -	-	12
September 15, 1938.		

<u>Well 229</u>		
Flat, H. D. Robbins tract, NW ¹ / ₄ sec. 150, blk. 7, I. & G. N. R.R. sur., 12 miles east of Panhandle.		
Sandy dark-gray top soil - - -	-	2

	Thickness (feet)	Depth (feet)
<u>Well 229--Continued</u>		
Sandy brown top soil - - -	2	4
Sandy light-brown clay - - -	5	9
Sandy light-brown clay and caliche - - -	-	15
Sandy light-brown clay - - -	20	35
Sandy whitish-brown clay and caliche - - -	8	43
Rock - - -	-	42
September 16, 1938.		

<u>Well 231</u>		
Bed of dry lake, Anna V. Simmons tract, NW ¹ / ₄ sec. 128, blk. 7, I. & G. N. R.R. sur., 11 miles east of Panhandle.		
Dark-gray top soil - - -	4	4
Sandy light-gray clay - - -	16	20
Sandy brownish-white clay - - -	5	25
White sand - - -	2	27
Light-red clay - - -	4	31
September 16, 1938.		

<u>Well 232</u>		
J. W. Dettner tract, SE ¹ / ₄ sec. 125, blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - -	2	2
Sandy light-gray clay and caliche - - -	4	6
Sandy red clay and caliche rock - - -	4	10
Rock - - -	-	10
September 16, 1938.		

<u>Well 235</u>		
Bed of dry lake, E. J. Roddatz tract, SE ¹ / ₄ sec. 145, blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - -	6	6
Medium-gray clay - - -	2	8
Light-gray clay - - -	8	16
Light-gray clay and sand - - -	3	19
Sandy light-gray clay and caliche - - -	6	25
Rock - - -	-	25
October 6, 1938.		

<u>Well 236</u>		
Bed of dry lake, 300 feet west of well 235, SE ¹ / ₄ sec. 145, blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - -	8	8
Sandy brownish-gray clay - - -	5	13
Sandy light-gray clay - - -	7	20
Sandy light-gray clay and caliche - - -	5	25
Light-gray sand and caliche - - -	3	28
Rock - - -	-	28
October 7, 1938.		

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Logs of U. S. test wells in Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Well 237</u>		
Bed of dry lake, 600 feet west of well 236, SE ¹ ₄ SE ¹ ₄ sec. 145 blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - - -	9	9
Medium-gray clay - - - -	13	22
Sandy medium-gray clay - -	8	30
Sandy medium-gray clay and caliche - - - -	1	31
Rock - - - - -	-	31
October 10, 1938.		

<u>Well 238</u>		
Bed of dry lake, 600 feet west of well 237, SW ¹ ₄ SE ¹ ₄ sec. 145, blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - - -	24	24
October 12, 1938.		

<u>Well 239</u>		
Bed of dry lake, 400 feet west of well 238, SW ¹ ₄ SE ¹ ₄ sec. 145, blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - - -	6	6
Sandy grayish-brown clay -	9	15
Dark-gray clay - - - -	4	19
Sandy medium-gray clay - -	3	22
Light-gray sand and caliche -	7	29
Rock - - - - -	-	29
October 13, 1938.		

<u>Well 240</u>		
Bed of dry lake, 400 feet west of well 239, SW ¹ ₄ SE ¹ ₄ sec. 145 blk. 7, I. & G. N. R.R. sur., 8 miles southeast of Panhandle.		
Dark-gray clay - - - -	4	4
Sandy brownish-gray clay -	8	12
Sandy brown clay and caliche	4	16
Sandy light-gray clay and caliche - - - -	4	20
Sandy light-brown clay and caliche - - - -	4	24
Rock - - - - -	-	24
October 7, 1938.		

<u>Well 245</u>		
In canyon, Edith Ellis tract, NE ¹ ₄ NW ¹ ₄ sec. 131, blk. B-3, H. & G. N. R.R. sur., 15 miles southeast of Panhandle.		
Sand - - - - -	3	3
Caliche - - - - -	2	5
Rock - - - - -	-	5
September 15, 1938.		

	Thickness (feet)	Depth (feet)
<u>Well 246</u>		
Bed of dry lake, J. D. Clark tract, SW ¹ ₄ sec. 129, blk. B-3 H. & G. N. R.R. sur., 1 mile southeast of Panhandle.		
Dark-gray clay - - - -	1	10
Brown clay - - - - -	8	18
Dark-gray clay - - - -	7	25
Sandy light-brown clay - -	3	28
September 22, 1938.		

<u>Well 247</u>		
Bed of dry lake, 600 feet southeast of well 246, SW ¹ ₄ sec. 129, blk. B-3, H. & G. N. R.R. sur., 14 miles southeast of Panhandle.		
Dark-gray clay top soil - -	4	4
Brown clay - - - - -	14	18
Dark-gray clay - - - -	9	27
Sandy light-gray clay and rock - - - - -	13	40
Sandy light-brown clay - -	7	47
Light-brown sand and clay -	23	70
Fine-grained sandy brown clay - - - - -	6	76
September 22, 1938.		

<u>Well 248</u>		
Bed of dry lake, 600 feet southeast of well 247, SW ¹ ₄ sec. 129, blk. B-3, H. & G. N. R.R. sur., 14 miles southeast of Panhandle.		
Dark-gray clay - - - -	4	4
Sandy light-brown clay - -	8	12
Sandy light-gray clay - -	3	15
Light-brown sand - - - -	11	26
Sandy light-brown clay - -	7	33
Sandy light-gray clay - -	4	37
Sandy light-brown clay - -	8	45
Light-gray sand - - - -	5	50
Light-brown sand and clay -	25	75
September 22, 1938.		

<u>Well 249</u>		
Bed of dry lake, 600 feet east of well 248, SE ¹ ₄ sec. 129, blk. B-3, H. & G. N. R.R. sur., 14 miles southeast of Panhandle.		
Dark-gray clay top soil - -	5	5
Sandy brown clay - - - -	6	11
Sandy light-brown clay - -	1	12
Sandy light-gray clay - -	15	27
Light-gray sand - - - -	8	35
Light-brown sand - - - -	19	54
September 25, 1938.		

Logs of W. P. L. test wells in Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Well 251</u>		
Bed of dry lake, 6 feet east of well 249, sec. 120, blk. B-5, H. & G. N. R.R. sur., 2000 feet east of SE cor. 14 miles southeast of Panhandle.		
Dark-gray top soil - - -	2	2
Sandy brown clay - - -	5	7
White sand and caliche - - -	9	16
Rock - - - - -	-	16
September 15, 1938.		

<u>Well 252</u>		
Gentle slope near dry lake, J. J. Burgin tract, SE 1/4 sec. 94, blk. B-3, H. & G. N. R.R. sur., 17 miles southeast of Panhandle.		
Sandy dark-gray top soil - - -	4	4
Gray sand and caliche - - -	1	5
Brown sand and caliche - - -	1	6
Light brown sand and caliche -	1	7
Reddish-brown sand and caliche - - - - -	1	8
Light-brown sand and caliche -	3	11
Sandy brown clay and caliche -	5	16
White sand and caliche - - -	1	17
Rock - - - - -	-	17
September 10, 1938.		

<u>Well 259</u>		
Bed of dry lake, 245 feet south of well 258, NE 1/4 sec. 94, blk. B-3, H. & G. N. R.R. sur., 17 miles southeast of Panhandle.		
Sandy dark gray top soil - - -	3	3
Caliche and brown clay - - -	1	4
Reddish-brown sand and clay -	3	7
Sandy gray clay - - - - -	10	17
White sand and caliche - - -	8	25
Rock - - - - -	-	25
September 10, 1938.		

<u>Well 261</u>		
Bed of dry lake, 375 feet south of well 259, NE 1/4 sec. 94, blk. B-3 H. & G. N. R.R. sur., 17 miles southeast of Panhandle.		
Sandy dark-gray top soil - - -	4	4
Sandy reddish-brown clay - - -	4	8
Dark-gray clay - - - - -	8	16
Sandy light-gray clay and caliche - - - - -	4	20
Light-brown sand and caliche -	27	47
White sand and caliche - - -	3	50
Rock - - - - -	-	50
September 10, 1938.		

	Thickness (feet)	Depth (feet)
<u>Well 261</u>		
Bed of dry lake, 275 feet south of well 261, NE 1/4 sec. 94, blk. B-3, H. & G. N. R.R. sur., 17 miles southeast of Panhandle.		
Sandy dark-gray top soil - - -	6	6
Dark-gray clay - - - - -	6	12
Sandy gray clay - - - - -	6	18
White sand - - - - -	7	25
Fine-grained white sand - - -	19	44
Light-brown sand - - - - -	2	46
White sand and caliche - - -	9	55
Rock - - - - -	-	55
September 10, 1938.		

<u>Well 262</u>		
Creekbed, 500 feet south of well 261, SE 1/4 sec. 94, blk. B-3, H. & G. N. R.R. sur., 17 miles southeast of Panhandle.		
Sandy gray top soil - - - - -	1	1
Sandy light-gray clay - - - -	6	16
Sandy light-brown clay - - -	2	18
Sandy brown clay - - - - -	4	22
Grayish-brown clay - - - - -	3	25
Sandy light-brown clay - - -	5	30
Light-brown sand - - - - -	15	45
September 14, 1938.		

<u>Well 263</u>		
Gentle slope near bed of dry lake, 900 feet south of well 262, SE 1/4 sec. 94, blk. B-3, H. & G. N. R.R. sur., 17 miles southeast of Panhandle.		
Sandy dark-gray top soil - - -	1	1
Light-brown sand - - - - -	5	6
Sandy light-gray clay - - - -	14	20
Sandy gray clay - - - - -	9	29
Light-brown clay - - - - -	4	33
September 14, 1938.		

<u>Well 317</u>		
Bed of dry lake, side of county road, SE 1/4 sec. 56, blk. 2, T. T. R.R. sur., 3 miles north of Panhandle.		
Brownish-gray clay - - - - -	2	2
Brown clay and caliche - - -	2	4
Rock - - - - -	-	4
November 30, 1938.		

<u>Well 318</u>		
Bed of dry lake, 300 feet south of well 317, NE corner of sec. 55, blk. 2, T.T.R.R. sur., 3 miles north of Panhandle.		
Dark-gray clay - - - - -	4	4

(Continued on next page)

Logs of W. P. test wells in Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Well 318--Continued</u>		
Medium-gray clay - - -	1	5
Sandy brown clay and caliche	4	9
Rock - - - - -		9
November 30, 1938.		

<u>Well 319</u>		
Bed of dry lake, 600 feet south of well 318, NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 55, blk. 2, T. T. R.R. sur., 3 miles north of Panhandle.		
Gray clay - - - - -	1	10
Brownish-gray clay - - -	4	14
Brown clay - - - - -	5	19
Red clay - - - - -	7	26
Sandy brownish-red clay and caliche - - - - -	4	30
Sandy brown clay - - -	2	32
Sandy reddish-brown clay and caliche - - - - -	3	35
Rock - - - - -		35
November 30, 1938.		

<u>Well 320</u>		
Bed of dry lake, 400 feet south of well 319, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 55, blk. 2, T. T. R.R. sur., 3 miles north of Panhandle.		
Gray clay - - - - -	4	4
Brownish-gray clay - - -	2	6
Sandy brownish gray clay -	2	8
Sandy reddish-brown clay and caliche - - - - -	8	16
Sandy brownish-gray clay and caliche - - - - -	7	23
Sandy light-brown clay - -	2	25
Light-brown clay and caliche	3	28
Brownish-gray clay and caliche - - - - -	2	30
Brown clay and caliche - -	2	32
Red clay and caliche - - -	5	37
Brownish-gray clay and caliche - - - - -	1	38
Sandy gray clay - - - - -	1	39
Caliche rock - - - - -	2	41
Sandy brownish-gray clay and caliche - - - - -	2	43
Sandy brownish-gray clay -	2	45
Sandy gray clay and caliche	4	49
November 30, 1938.		

<u>Well 321</u>		
Bed of dry lake, 300 feet south of well 320, SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 55, blk. 2, T. T. R.R. sur., 3 miles north of Panhandle.		
Gray clay - - - - -	5	5
Brownish-gray clay - - -	3	8

	Thickness (feet)	Depth (feet)
<u>Well 321--Continued</u>		
Sandy brownish-red clay -	3	11
Sandy brown clay and caliche	9	20
November 30, 1938.		

<u>Well 371</u>		
Bed of dry lake, Grover Ingram tract, NW corner of sec. 23, blk. 3, A. B. & M. sur., 7 $\frac{1}{2}$ miles southwest of Panhandle.		
Sandy medium-gray clay - -	6	6
Sandy brownish-gray clay and caliche - - - - -	4	10
Sandy brown clay and caliche	27	37
Sandy reddish-brown clay and caliche - - - - -	15	52
November 22, 1938.		

<u>Well 372</u>		
Bed of dry lake, 450 feet south of well 371, NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, blk. 3, A. B. & M. sur., 7 $\frac{1}{2}$ miles southwest of Panhandle.		
Brownish-gray clay - - -	10	1
Sandy brownish-gray clay, brown streaks - - -	25	35
Sandy gray clay - - - -	4	39
Sandy brownish-gray clay	5	44
Sandy brownish gray clay and caliche - - - -	7	51
November 23, 1938.		

<u>Well 373</u>		
Bed of dry lake, 450 feet south of well 372, NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, blk. 3, A. B. & M. sur., 7 $\frac{1}{2}$ miles southwest of Panhandle.		
Dark-gray clay - - - -	8	8
Brownish-gray clay - - -	26	34
Sandy brownish-gray clay	7	41
Sandy gray clay - - - -	7	48
Sandy brownish-gray clay and caliche - - - -	5	53
Sandy red clay - - - - -	3	56
November 25, 1938.		

<u>Well 374</u>		
Bed of dry lake, 450 feet south of well 373, SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23, blk. 3, A. B. & M. sur., 7 $\frac{1}{2}$ miles southwest of Panhandle.		
Sandy gray clay - - - - -	8	8
Sandy brown clay and caliche	7	15
Sandy brownish-gray clay and caliche - - - -	4	19
Sandy brown clay and caliche	14	33
November 30, 1938.		

Logs of W. P. test wells in Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Well 434</u>		
Bed of dry lake, Esthor Ingram tract, NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, blk. M-4, J. H. Gibson sur., 10 $\frac{1}{2}$ miles southwest of Panhandle. Fine-grained sand brown clay		
and caliche - - - -	6	6
Sandy brown clay and caliche	18	24
Sandy grayish-brown clay and caliche - - - -	6	30
Rock - - - -	-	30
November 7, 1938.		

<u>Well 435</u>		
Bed of dry lake, 450 feet south of well 434, NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, blk. M-4, J. H. Gibson sur., 10 $\frac{1}{2}$ miles southwest of Panhandle.		
Sandy dark-gray clay - -	10	10
Sandy grayish-brown clay -	9	19
Sandy reddish-brown clay and caliche - - - -	6	25
Sandy reddish-brown clay -	29	54
Sandy reddish-brown clay and caliche - - - -	10	64
Sandy brown clay and caliche - - - -	7	71
Rock - - - -	-	71
October 28, 1938.		

<u>Well 436</u>		
Bed of dry lake, 450 feet south of well 435, SW $\frac{1}{4}$ sec. 11, blk. M-4, J. H. Gibson sur., 10 $\frac{1}{2}$ miles southwest of Panhandle.		
Dark-gray clay - - - -	7	7
Sandy grayish-brown clay -	5	12
Sandy brown clay and caliche	6	18
Sandy gray clay - - - -	7	25
Sandy grayish-brown clay -	4	29
Sandy reddish-brown clay -	6	35
Sandy reddish-brown clay and caliche - - - -	14	49
Rock - - - -	-	49
October 27, 1938.		

<u>Well 437</u>		
Bed of dry lake, 450 feet south of well 436, SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, blk. M-4, J. H. Gibson sur., 10 $\frac{1}{2}$ miles southwest of Panhandle.		
Gray clay - - - -	6	6
Sandy grayish-brown clay and caliche - - - -	3	9
Sandy brown clay and caliche	4	13
Sandy grayish-brown clay -	3	16
Sandy brown clay and caliche	17	33

	Thickness (feet)	Depth (feet)
<u>Well 437--Continued</u>		
Sandy light-brown clay and caliche - - - -	4	37
Sandy reddish-brown clay and caliche - - - -	4	41
Sandy grayish-brown clay and caliche - - - -	2	43
Rock - - - -	-	45
October 25, 1938.		

<u>Well 438</u>		
Bed of dry lake, 450 feet south of well 437, SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, blk. M-4, J. H. Gibson sur., 10 $\frac{1}{2}$ miles southwest of Panhandle.		
Sandy brown clay and caliche	9	9
Sandy grayish-brown clay - -	4	13
Sandy grayish-brown clay and caliche - - - -	11	24
Sandy brown clay and caliche - - - -	7	31
Sandy brown clay - - - -	4	35
Rock - - - -	-	35
October 24, 1938.		

<u>Well 442</u>		
Bed of dry lake, J. F. Sterling tract, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 55, blk. B-4, H. & G. N. R.R. sur., 12 miles southwest of Panhandle.		
Sandy light-brown clay - -	4	4
Roddish-brown sand and caliche - - - -	2	6
Rock - - - -	-	6
November 9, 1938.		

<u>Well 443</u>		
Bed of dry lake, 600 feet south of well 442, SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 55, blk. B-4, H. & G. N. R.R. sur., 12 miles southwest of Panhan- dle.		
Light-gray clay - - - -	6	6
Sandy light-gray clay and caliche - - - -	5	11
Light-brown sand and caliche - - - -	9	20
Roddish-brown sand and caliche - - - -	8	28
Rock - - - -	-	28
November 10, 1938.		

<u>Well 444</u>		
Bed of dry lake, 600 feet south of well 443, SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 55, blk. B-4, H. & G. N. R.R. sur., 12 miles southwest of Panhan- dle.		

(Continued on next page)

Logs of U. P. R. test wells in Carson County--Continued

	Thickness (feet)	Depth (feet)
<u>Well 444--Continued</u>		
Medium-gray clay - - -	7	7
Light-gray clay - - -	4	11
Medium-gray clay - - -	18	29
Light-gray sand - - -	5	32
Light-brown sand - - -	8	40
Light-brown sand and caliche	7	47
Rock - - - - -		47
November 12, 1938.		

<u>Well 445</u>		
Bed of dry lake, 600 feet south of well 444, NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 55, blk. B-4, H. & G. N. R.R. sur., 12 miles southwest of Panhandle.		
Medium-gray clay - - -	6	6
Light-gray clay - - -	6	12
Medium-gray clay - - -	16	28
Light-gray clay and caliche	8	36
Medium-gray clay - - -	9	45
Brownish-gray clay - - -	8	53
Gray clay and caliche - -	3	56
Rock - - - - -		56
November 14, 1938.		

<u>Well 446</u>		
Bed of dry lake, 600 feet south of well 445, NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 55, blk. B-4, H. & G. N. R.R. sur., 12 miles southwest of Panhandle.		
Sandy medium-gray clay - -	4	4
Sandy brownish-gray clay -	9	13
Sandy medium gray clay - -	16	29
November 16, 1938.		

<u>Well 449</u>		
Bed of dry lake, R. D. Baker tract, SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, blk. B-4, H. & G. N. R.R. sur., 13 $\frac{1}{2}$ miles southwest of Panhandle.		
Dark-gray clay - - - - -	5	5
Sandy brown clay and caliche	5	10
Sandy brown clay - - - - -	5	15
Sandy reddish-brown clay and caliche - - - - -	11	26
Rock - - - - -		26
October 6, 1938.		

<u>Well 450</u>		
Bed of dry lake, 450 feet west of well 449, SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 18, blk. B-4, H. & G. N. R.R. sur., 13 $\frac{1}{2}$ miles southwest of Panhandle.		
Dark-gray clay - - - - -	5	5
Medium-gray clay - - - - -	16	21
Grayish-brown clay - - - -	4	25
Red sandy clay - - - - -	26	51
October 7, 1938.		

	Thickness (feet)	Depth (feet)
<u>Well 451</u>		
Bed of dry lake, 450 feet west of well 450, south $\frac{1}{2}$ sec. 18, blk. B-4, H. & G. N. R.R. sur., 13 $\frac{1}{2}$ miles southwest of Panhandle.		
Dark-gray clay - - - - -	8	8
Medium-gray clay - - - - -	6	14
Brown clay - - - - -	3	17
Brownish-gray clay - - - -	9	26
Sandy red clay - - - - -	30	56
Rock - - - - -		56
October 10, 1938.		

<u>Well 452</u>		
Bed of dry lake, 450 feet west of well 451, SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, blk. B-4, H. & G. N. R.R. sur., 13 $\frac{1}{2}$ miles southwest of Panhandle.		
Dark-gray clay - - - - -	9	9
Sandy light-gray clay - - -	6	15
Sandy brown clay - - - - -	13	28
Sandy brownish-gray clay and caliche - - - - -	8	36
Sandy brown clay and caliche - - - - -	10	46
Rock - - - - -		46
October 12, 1938.		

<u>Well 453</u>		
Bed of dry lake, 450 feet west of well 452, SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 18, blk. B-4, H. & G. N. R.R. sur., 13 $\frac{1}{2}$ miles southwest of Panhandle.		
Sandy brown clay - - - - -	18	18
sandy light-brown clay and caliche - - - - -	14	32
Sandy clay and caliche - -	24	56
Rock - - - - -		56
October 12, 1938.		

Partial analyses of water from wells in Carson County, Texas

(Analyzed at The University of Texas under the direction of Dr. E. P. Schoch, Director of the Bureau of Industrial Chemistry, and E. W. Lohr, Chemist, U. S. Department of the Interior, Geological Survey; by D. F. Riddell, and H. T. Davidson, Chemists; and D. C. Ebner, Martin Wieland, and Jack Ramsey, Assistant Chemists. Nitrate and fluoride determined by E. W. Lohr. Results are in parts per million. Well numbers correspond to numbers in table of well records.)

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
2	C. E. Deahl	170	Oct., 18, 1938	223	58	14	6	177	24	34	b/	-	204
3	Alena A. Gayden	80	do.	227	59	17	5	195	12	34	b/	0.4	215
4	J. M. Sanford	80	Nov. 18, 1938	423	86	26	31	226	95	74	b/	0.7	321
5	Betty F. Welsh	Spring	Oct. 18, 1938	-	39	9	5	122	12	1	b/	0.4	-
c/ 7	J. M. Huber Corp.	210	Nov. 17, 1938	207	-	-	-	183	27	12	b/	-	-
11	J. M. Sanford	100	Oct. 18, 1938	244	58	22	3	232	26	14	b/	-	233
12	do.	94	Oct. 13, 1938	293	-	-	-	274	35	28	b/	-	-
13	A. F. Bennett	157	Nov. 14, 1938	230	54	21	3	195	25	31	b/	-	223
14	do.	80	do.	-	-	-	-	-	19	10	b/	-	-
15	J. M. Sanford	115	Oct. 18, 1938	229	-	-	-	252	18	9	b/	-	-
16	W. E. Fuqua	100	do.	274	62	22	10	226	35	26	b/	0.4	243
17	A. F. Bennett	147	Nov. 14, 1938	145	36	10	6	140	13	11	b/	0.3	131
18	H. T. Deahl	280	do.	208	51	16	7	220	19	7	b/	-	195
19	C. E. Deahl	400	Nov. 11, 1938	216	41	25	8	226	15	16	b/	-	205
21	C. F. Moore	195	Oct. 18, 1938	208	22	17	32	235	a/	9	b/	-	125
22	J. M. Sanford	195	do.	207	42	20	9	207	15	10	b/	0.8	188
23	C. F. Moore	292	do.	157	30	22	5	165	10	12	b/	0.8	163
51	S. B. Burnett Est.	170	Nov. 18, 1938	290	60	26	15	262	30	30	b/	-	256
52	do.	445	Nov. 17, 1938	233	48	27	5	189	32	32	b/	-	232
53	do.	170	Oct. 18, 1938	299	-	-	-	238	36	34	b/	-	-
54	Humble Pipe Line Co.	264	Nov. 16, 1938	234	-	-	-	238	12	14	b/	-	-
55	do.	183	Nov. 17, 1938	255	-	-	-	226	16	30	b/	-	-
56	do.	200	do.	313	72	27	13	311	8	40	b/	-	292
57	S. B. Burnett Est.	Spring	Oct. 12, 1938	265	54	17	4	278	35	18	b/	1.2	205
58	do.	97	do.	288	62	22	16	238	35	28	b/	0.7	243
59	do.	200	Dec. 1, 1938	242	52	19	15	232	27	12	b/	-	207
60	do.	154	Dec. 5, 1938	325	74	28	6	244	57	40	b/	0.7	303
61	Gulf Pipe Line Co.	350	Nov. 18, 1938	626	125	32	42	226	188	121	b/	0.6	445

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

c/ Composite sample from wells 7, 8, 9, 10.

Partial analyses of water from wells in Carson County--Continued

Results are in parts per million.

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
62	Gulf Pipe Line Co.	377	Nov. 18, 1938	273	45	25	24	226	38	30	b/	1.4	215
63	S. B. Burnett Est.	275	Dec. 1, 1938	244	-	-	-	226	26	14	b/	-	-
66	do.	268	do.	228	43	24	11	220	28	14	b/	-	205
67	do.	400	do.	723	124	37	60	189	379	30	b/	1.0	463
70	do.	205	Nov. 26, 1938	210	39	15	22	183	12	32	b/	-	159
71	do.	100	Nov. 6, 1938	238	57	24	2	262	13	8	-	-	240
72	do.	117	Nov. 15, 1938	238	62	10	16	250	15	10	b/	-	196
73	do.	217	do.	224	-	-	-	232	15	8	b/	-	-
76	Phillips Oil Co.	500	Nov. 19, 1938	247	52	19	18	250	21	14	b/	0.7	207
80	do.	298	do.	247	-	-	-	238	21	14	b/	-	-
81	do.	451	Nov. 17, 1938	193	38	21	6	183	22	16	b/	-	183
101	S. B. Burnett Est	126	Nov. 26, 1938	156	-	-	-	159	12	6	b/	-	-
102	do.	-	Oct. 21, 1938	216	-	-	-	207	20	11	b/	-	102
103	do.	263	Nov. 26, 1938	263	49	15	14	201	32	12	b/	-	184
104	A. J. Daves	250	Nov. 28, 1938	224	-	-	-	214	20	13	b/	-	-
105	Magnolia Petroleum Co.	210	do.	198	51	14	8	226	a/	6	b/	-	184
106	Danciger Oil Co.	165	Dec. 7, 1938	188	54	11	3	189	11	16	b/	-	182
109	Northern Natural Gas Co.	310	do.	223	-	-	-	220	19	10	b/	-	-
110	P. & S. F. R.R.	418	do.	235	50	20	13	232	25	13	b/	-	207
112	Julia McConnell	390	Nov. 25, 1938	263	23	14	67	250	28	12	b/	-	114
113	T. H. Bernard	400	Nov. 21, 1938	2,527	232	69	552	201	875	700	b/	0.4	862
116	T. B. Cobb Est.	375	Dec. 2, 1938	349	-	-	-	195	42	83	b/	-	-
117	S. Czermer	450	Nov. 21, 1938	2,468	-	-	-	201	853	700	b/	-	-
121	L. J. Bednanz	385	do.	243	43	24	20	268	16	8	b/	-	205
124	C. A. Noel	390	Nov. 4, 1938	579	54	21	134	262	110	130	b/	0.6	223
125	A. D. Smith	422	do.	2,160	80	26	667	226	621	655	b/	1.6	306
126	Magnolia Petroleum Co.	225	Nov. 28, 1938	255	-	-	-	256	16	14	b/	-	-
127	White Deer Investment Co.	370	do.	286	59	24	15	250	52	13	b/	0.5	245
128	George Coffee	517	Oct. 29, 1938	969	58	20	273	201	176	340	b/	1.3	227
129	O. Thorneburg	340	Oct. 10, 1938	260	-	-	-	268	19	8	b/	0.7	-

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

Partial analyses of water from wells in Carson County--Continued
Results are in parts per million.

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	Calcium (ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
130	S. B. Burnett Est	339	Oct. 27, 1938	228	51	24	5	256	12	10	b/	-	225
151	Mrs. W. F. Simms	341	Oct. 15, 1938	229	54	20	6	232	23	12	b/	-	218
152	W. G. Allen	319	do.	272	-	-	-	281	19	10	b/	-	-
154	W. T. Gaston	280	Nov. 4, 1938	231	-	-	-	220	16	18	b/	-	-
155	G. W. Culbertson	328	Oct. 10, 1938	239	-	-	-	232	19	14	b/	-	-
157	P. & S. F. R.R.	347	Dec. 6, 1938	222	50	21	6	226	19	15	b/	-	213
158	L. A. Cunningham	316	Oct. 10, 1938	242	-	-	-	244	15	13	b/	-	-
159	City of White Deer	400	Dec. 6, 1938	248	50	20	20	268	15	11	b/	-	207
165	A. Gonzelick	370	Oct. 10, 1938	257	42	22	30	281	19	6	b/	-	193
167	D. Pope	312	Dec. 2, 1938	254	52	18	24	268	19	9	b/	0.7	201
168	E. W. Sheridan	412	do.	267	49	22	25	281	21	12	b/	-	214
170	W. B. Carey	360	Oct. 8, 1938	215	53	19	4	232	16	10	b/	-	212
177	A. D. Weatherby	340	Oct. 10, 1938	268	-	-	-	281	16	10	b/	-	-
178	G. D. Haden	314	do.	212	52	22	-	236	12	10	b/	1.1	218
179	A. A. Armstrong	328	Dec. 2, 1938	246	-	-	-	256	16	9	b/	-	-
180	L. O. Eakin	324	Oct. 6, 1938	242	-	-	-	250	16	9	b/	-	-
181	E. C. Harris	322	do.	238	-	-	-	244	16	10	b/	-	-
182	J. B. Latham	298	Oct. 1, 1938	251	-	-	-	268	15	6	b/	-	-
183	W. Lill	299	Oct. 13, 1938	275	-	-	-	305	a/	8	b/	-	-
184	Cora Honaker	293	Oct. 6, 1938	233	58	22	3	262	13	8	b/	-	233
185	T. B. Harris	240	do.	243	49	27	11	293	a/	3	b/	-	231
187	F. S. & J. S. Strobe	300	Sept. 26, 1938	278	-	-	-	268	28	12	b/	-	-
195	R. Benedict	300	Sept. 28, 1938	278	-	-	-	275	24	12	b/	-	-
196	P. Heller	299	Oct. 8, 1938	234	48	30	1	268	14	9	b/	-	244
197	P. Harnly	303	do.	251	-	-	-	256	16	12	b/	-	-
199	Mabel Thompson	300	Sept. 23, 1938	261	-	-	-	244	26	14	b/	0.9	-
203	J. A. Burgin	330	Sept. 22, 1938	264	56	24	14	293	17	9	b/	-	240
204	D. H. & E. A. Farley	261	Sept. 29, 1938	257	-	-	-	275	19	3	b/	-	-
205	P. E. Johnson	241	Sept. 22, 1938	220	-	-	-	238	12	5	b/	-	-
207	J. F. Jackson	293	do.	240	52	23	10	268	17	6	b/	-	234
208	O. R. Major	300	Sept. 23, 1938	246	51	27	8	268	23	7	b/	-	236
209	G. E. Schneider	278	do.	242	-	-	-	256	15	7	b/	-	-
225	Henry Kuhler	347	Sept. 26, 1938	251	53	25	10	281	19	6	b/	-	236
226	J. McKamy	400	do.	289	61	27	14	305	27	10	b/	-	261
230	L. D. Harris	316	Sept. 27, 1938	244	54	24	6	256	24	10	b/	-	235

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

Partial analysis of water from wells in Carson County--Continued
Results are in parts per million.

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na / K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
233	T. M. Honaker	296	Sept. 27, 1938	262	54	29	8	293	19	8	b/	-	253
234	W. H. Harrell	325	Oct. 13, 1938	274	-	-	-	281	19	11	b/	-	-
241	D. A. Harrell	350	do.	269	50	23	20	250	35	11	b/	-	219
243	E. A. Culler	350	Sept. 27, 1938	266	-	-	-	244	27	18	b/	-	-
244	Lark School	-	Nov. 8, 1938	236	49	24	9	244	24	10	b/	-	219
251	J. D. Clark	312	Sept. 22, 1938	-	-	-	-	-	16	9	b/	-	-
253	Nick Britten	297	Sept. 21, 1938	276	38	22	42	299	12	9	b/	-	183
254	J. A. Burgin	320	Sept. 22, 1938	218	-	-	-	232	12	7	b/	-	-
255	do.	323	do.	215	-	-	-	232	12	5	b/	-	-
256	Nick Britten	318	Sept. 21, 1938	230	58	20	4	256	12	9	b/	0.8	228
264	T. Conrad	300	do.	264	-	-	-	281	16	7	b/	-	-
265	Mary Kuelhler	285	Sept. 22, 1938	237	51	25	7	268	16	5	b/	0.9	231
267	City of Groom	450	Sept. 21, 1938	250	53	25	11	293	12	5	b/	0.6	236
268	do.	302	do.	243	59	25	1	281	12	8	b/	-	251
269	C. W. Crowell	228	do.	243	72	13	2	232	32	10	b/	-	233
270	J. W. Knorp	278	Sept. 22, 1938	254	-	-	-	262	20	7	b/	-	-
271	Maggie Weller	292	do.	252	-	-	-	268	16	6	b/	-	-
272	J. M. Britten	298	Sept. 21, 1938	254	56	24	10	287	16	7	b/	-	240
301	C. F. Moore	378	Nov. 16, 1938	224	43	25	10	250	13	10	b/	-	210
302	O. L. Thorp	350	Nov. 11, 1938	239	-	-	-	244	12	14	b/	-	-
305	do.	381	do.	236	-	-	-	232	15	16	b/	-	-
306	L. A. Whiteside	260	Nov. 19, 1938	200	62	11	5	214	10	9	b/	1.2	202
307	W. H. Fuqua	258	Nov. 16, 1938	230	-	-	-	232	14	13	b/	-	-
309	G. E. Bailey	400	Oct. 12, 1938	208	52	70	50	226	a/	8	b/	1.1	213
310	J. E. O'Keefe	334	Oct. 4, 1938	225	-	-	-	232	16	8	b/	-	-
311	O. L. Thorp	381	Nov. 3, 1938	234	53	22	8	256	11	14	b/	-	224
312	L. C. Shepard	337	Oct. 12, 1938	221	-	-	-	226	12	12	b/	-	-
314	E. L. Holcomb	272	do.	254	-	-	-	256	11	16	b/	-	-
322	F. E. Bender	338	Oct. 15, 1938	230	-	-	-	226	23	8	b/	-	-
323	J. C. Worthington	350	Oct. 10, 1938	265	-	-	-	281	15	9	b/	-	-
324	Gulf Pipe Line Co.	650	Dec. 7, 1938	274	50	26	22	299	21	9	b/	1.0	231
325	M. S. Cannedy Est.	333	Oct. 13, 1938	241	52	17	23	281	a/	5	b/	1.4	200
326	J. Lill	360	Oct. 1, 1938	282	-	-	-	287	19	13	b/	-	-
328	G. L. Simms	348	Oct. 3, 1938	253	49	34	-	281	16	11	b/	-	256

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

Partial analyses of water from wells in Carson County--Continued
Results are in parts per million.

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
329	P. & S. F. R.R.	550	Dec. 6, 1938	274	-	-	-	281	19	11	b/	-	-
331	City of Panhandle	523	Dec. 1, 1938	266	52	28	12	293	20	10	b/	1.1	248
332	C. E. Deahl	387	Nov. 11, 1938	326	38	36	5	256	14	12	b/	0.9	242
335	John Haggard	344	Oct. 4, 1938	258	-	-	-	256	16	16	b/	-	-
337	P. K. Burum	520	Nov. 1, 1938	255	48	30	14	293	18	11	b/	0.9	243
338	M. B. Welsh	395	Nov. 2, 1938	253	51	31	5	256	17	15	b/	0.8	256
339	Elizabeth Welsh	348	do.	200	46	19	6	220	11	10	b/	0.8	192
340	Leo F. Detten	376	Oct. 12, 1938	140	30	17	-	146	13	8	b/	0.9	145
341	P. R. Burum	355	Nov. 2, 1938	241	-	-	-	256	10	11	b/	-	-
342	G. B. Bilbrey	325	Oct. 12, 1938	258	58	24	7	268	12	14	b/	-	245
345	Vivian A. Price	350	Nov. 10, 1938	204	-	-	-	207	15	9	b/	-	-
346	Harry W. Ware	350	Oct. 29, 1938	257	52	29	5	262	17	11	b/	-	248
347	C. B. Chenoweth	385	do.	299	52	29	18	232	72	12	b/	1.9	248
348	T. M. Cleck	360	do.	244	55	25	6	268	12	14	b/	-	240
349	J. B. Bender	362	Oct. 30, 1938	268	54	30	7	268	21	13	b/	1.6	258
350	Henry Wernner	360	Oct. 29, 1938	258	52	29	6	244	28	23	b/	-	248
351	A. D. Bender	330	Oct. 30, 1938	234	52	23	4	220	32	10	b/	-	224
352	L. F. Cleck	333	do.	260	-	-	-	238	28	16	b/	-	-
353	W. M. Bender	310	Oct. 6, 1938	260	-	-	-	262	16	14	b/	-	-
356	Florence Weatherby	330	Oct. 13, 1938	286	51	29	15	275	35	18	b/	-	263
359	Alena A. Gayden	323	Nov. 8, 1938	313	40	27	40	244	60	26	b/	-	212
361	R. W. Calliham	235	Sept. 7, 1938	263	47	25	19	244	23	16	b/	2.7	221
363	Mrs. H. L. Calliham	338	Oct. 13, 1938	332	51	25	41	268	54	27	b/	2.3	231
365	J. W. Ketchum	395	Oct. 30, 1938	262	40	27	26	268	20	15	b/	2.2	212
367	M. G. Walker	230	Sept. 13, 1938	269	48	30	13	268	31	15	b/	-	244
368	J. A. Burgin	210	Sept. 7, 1938	397	73	48	13	445	23	14	b/	-	380
369	M. G. Walker	339	Oct. 29, 1938	268	39	26	26	232	44	19	b/	-	206
370	G. Ingram	331	Nov. 9, 1938	223	44	28	24	244	38	29	b/	-	228
375	F. E. & C. M. Peacock	279	Oct. 29, 1938	256	56	29	5	299	10	9	b/	-	258
376	do.	310	Oct. 31, 1938	277	49	26	18	244	52	12	b/	-	231
377	Esther S. Ingram	324	Nov. 9, 1938	282	-	-	-	256	34	15	b/	-	-
378	Frank A. Metcalf	500	Nov. 1, 1938	4,363	606	221	439	37	2,694	385	b/	0.5	2,426
379	E. E. Ewing	409	Sept. 13, 1938	4,581	582	227	541	73	2,707	485	b/	0.5	2,390

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

Partial analyses of water from wells in Carson County--Continued
Results are in parts per million.

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (c.c.c.)	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na + K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
401	C. Purvines	425	Nov. 12, 1938	200	-	-	-	207	12	8	b/	-	-
402	do.	509	do.	210	37	24	12	226	16	10	b/	-	190
403	Mark Skiles	260	do.	263	66	19	7	256	18	11	-	-	242
404	M. L. Purvines	396	Nov. 11, 1938	212	-	-	-	220	14	8	b/	-	-
405	C. E. Deahl	430	do.	183	32	21	10	201	12	9	b/	-	168
408	Opal Purvines	406	do.	219	-	-	-	232	12	8	b/	-	-
410	C. Purvines	445	Nov. 12, 1938	227	48	28	15	244	16	8	b/	1.0	238
411	J. J. Buschkoeter	476	Oct. 7, 1938	243	60	22	4	250	20	13	b/	1.0	236
412	O. P. Russ	420	Nov. 1, 1938	248	47	24	16	250	23	15	b/	-	215
413	Ben Haiduk	409	Oct. 7, 1938	260	54	23	15	268	26	10	b/	-	229
414	Ed & Ray Swiere	236	do.	238	56	22	7	256	14	13	b/	-	228
415	R. B. Masterson	420	Nov. 1, 1938	257	-	-	-	256	19	13	b/	-	-
416	do.	400	do.	236	48	25	9	253	19	11	b/	-	230
417	A. D. Bender	390	do.	259	-	-	-	262	19	11	b/	-	-
418	F. W. Vance	360	Oct. 7, 1938	237	-	-	-	272	20	12	b/	-	-
419	J. D. Bender	380	Nov. 10, 1938	243	46	26	13	262	19	10	b/	-	231
420	V. H. Obnecht	383	Oct. 14, 1938	279	47	27	25	227	27	12	b/	-	226
421	M. Garretson	360	Oct. 7, 1938	257	-	-	-	256	20	12	b/	-	-
422	E. E. Lusk	400	Nov. 1, 1938	261	54	26	13	293	14	10	b/	-	241
423	V. H. Kimble	401	Oct. 7, 1938	266	55	27	12	287	20	11	b/	-	246
424	A. F. Buschkoeter	406	do.	245	61	19	8	268	16	7	b/	1.3	232
425	M. B. Leopold	348	Oct. 3, 1938	296	-	-	-	281	31	14	b/	-	-
426	F. C. Klincke	330	do.	262	-	-	-	256	19	16	b/	-	-
427	C. F. Reef	360	do.	285	53	28	18	268	35	16	b/	3.0	247
428	J. C. Berg	359	do.	254	-	-	-	256	19	11	b/	-	-
429	J. C. Vance	307	do.	241	44	31	6	256	18	13	b/	2.2	239
431	J. A. Kneirim	242	Oct. 14, 1938	315	-	-	-	268	42	14	b/	-	-
432	C. E. Deahl	245	Nov. 10, 1938	282	50	31	15	275	32	17	b/	1.6	254
433	J. W. Randall	294	Oct. 14, 1938	465	40	22	104	275	104	54	b/	-	168
439	L. A. Wells	192	Sept. 13, 1938	283	59	28	11	227	32	12	b/	-	262
440	N. H. Read	183	Nov. 9, 1938	288	-	-	-	281	22	17	b/	-	-
441	J. F. Sterling	200	do.	281	42	33	27	317	16	11	b/	3.5	241

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

Partial analyses of water from wells in Carson County--Continued

Results are in parts per million.

Well No.	Owner	Depth of well (ft.)	Date of collection	Total dissolved solids (calc.)	Calcium (Ca)	Magnesium (Mg)	Sodium and Potassium (Na / K) (calc.)	Bicarbonate (HCO ₃)	Sulphate (SO ₄)	Chloride (Cl)	Nitrate (NO ₃)	Fluoride (F)	Total hardness as CaCO ₃ (calc.)
447	Idell Durrett	207	Nov. 9, 1938	315	64	27	18	293	48	12	b/	2.1	272
448	F. M. Sweeney	274	Oct. 14, 1938	428	47	27	74	268	108	29	b/	2.3	226
454	R. W. Adams	258	do.	471	69	48	22	201	211	20	b/	1.9	370
457	M. F. Smith	254	do.	356	74	23	23	244	96	20	b/	-	279
458	W. L. Smith	229	Sept. 13, 1938	348	52	40	20	262	88	16	b/	2.8	294

a/ Sulphate less than 10 parts per million.

b/ Nitrate less than 20 parts per million.

- EXPLANATION -

- ◇ WELL WITH WINDMILL OR SMALL POWER PUMP
- WELL WITH PUMPING PLANT - 5 HORSE POWER OR LARGER
- ◇ WELL DRILLED TO TEST FOR OIL OR GAS
- ◇ UNUSED WELL
- ◇ WELL DRILLED BY W.P.A. LABOR
- SPRING
- SINK
- HIGHWAY
- IMPROVED ROAD
- UNIMPROVED ROAD

MAP OF CARSON COUNTY, TEXAS SHOWING LOCATIONS OF WATER WELLS LISTED

SCALE
0 1 2 3 4 5 6 MILES



FIELD WORK BY
S.W. ADAIR
PROJECT SUPERINTENDENT
W.P.A. PROJECT 10512

BASE COMPILED FROM
LAND OWNERSHIP MAP
AND FIELD NOTES
— TEXAS BOARD OF
WATER ENGINEERS
ASSISTED BY
U.S. GEOLOGICAL SURVEY

